DOCUMENT RESUME

ED 097 536 CE 002 307

AUTHOR	Glickman, Albert S.; Brown, Zenia H.
TITLE	Changing Schedules of Work; Patterns and Implications.
INSTITUTION	American Institutes for Research in the Behavioral Sciences, Silver Spring, Md.; Upjohn (W.E.) Inst. for Employment Research, Kalamazoo, Mich.
SPONS AGENCY	Manpower Administration (DOL), Washington, D.C.
PUB DATE	Jun 74
NOTE	108p.
AVAILABLE FROM	The W. E. Upjohn Institute For Employment Research, 300 South Westnedge Avenue, Kalamazoo, Michigan 49007 ($2.50)
EDRS PRICE	MF-$0.75 HC-$5.40 PLUS POSTAGE
DESCRIPTORS	Change Strategies; Changing Attitudes; *Economic Research; Employment Patterns; Employment Trends; *Flexible Schedules; Flexible Scheduling; Futures (of Society); Innovation; *Leisure Time; Manpower Utilization; Research Needs; Social Change; Social Problems; Time Blocks; Trend Analysis; Work Attitudes; *Working Hours

ABSTRACT

Implications of innovative experiments with changes in the standard 40-hour workweek are dealt with in the study, which is a shorter version of a comprehensive report on changing work schedules prepared by the American Institute for Research. Varying patterns of two general types of workweeks are presented: (1) the compact workweek which may be compressed, for example, into four 10-hour days; and (2) the flexible workweek in which the employee has latitude in scheduling work time to meet the standard weekly requirement. Information is given about various administrative experiments in work scheduling. Given primary attention are the various kinds and degrees of impact that alternative schedules of work can have on human performance, social processes and organization, and the quality of life. Such alternatives may require that social-political systems develop means for greater control of free-time activities to ensure equity. Particular attention is given to the social and psychological adjustments required as a result of the trend discerned by the researchers, who offer guidance to those involved in anticipating and preparing for the foreseen changes. (Author/AJ)

ED 097536

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CHANGING SCHEDULES OF WORK
Patterns and Implications

By

Albert S. Glickman
Deputy Director

and

Zenia H. Brown
Senior Research Associate

Washington Office
American Institutes for Research

June 1974

CE 002 307

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FOR EMPLOYMENT RESEARCH

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Offices

300 South Westnedge Ave.
Kalamazoo, Michigan 49007

1101 Seventeenth St., N.W.
Washington, D.C. 20036

This publication is for sale by the Kalamazoo office at $2.50 per copy. For quantity orders of this publication or any combination of Institute publications, price reductions are as follows: 10–25 copies, 10 percent; 26–50, 15; 51–100, 20; over 100, 25.

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FOREWORD

The W. E. Upjohn Institute for Employment Research is pleased to publish this study on flexible work schedules, a subject of growing practical interest in both the United States and Europe. Its broader context is the continuing search for new "social inventions" to improve the quality of work life. The search in recent years has produced an agenda dealing with the human factors in industrial organization; those, if left unattended, impair the workers' productive capacity. Job redesign, workers' sabbaticals, midcareer counseling and retraining, and continuing education are among the more prominent innovations of a growing agenda addressed to the human needs of the labor force. The flexible work schedule is a recent item added to this agenda.

This publication is the result of collaboration between the Upjohn Institute and the American Institutes for Research in preparing a design during 1973 for an assessment of work schedules. Both organizations brought to the collaboration the fruits of several years' research and publication. Among these was an unusually comprehensive report on flexible work schedules prepared by the American Institutes for Research for the U.S. Department of Labor's Manpower Administration. The Upjohn Institute believes that the report merits publication because, notwithstanding expanding experimentation with a variety of flexible work schedules, and notwithstanding numerous magazine and newspaper reports and individual reports, there has not appeared in the United States a publication that presents the subject in its full scope. This study admirably opens a comprehensive field of vision in a promising area of manpower experimentation embracing worker, family, and community needs with productive results for industry and commerce.

Dr. Albert S. Glickman, Deputy Director of the Washington office of the American Institutes for Research, and Director of the Organizational Behavior Research Group, was principal investigator in this study. Miss Zenia H. Brown, Senior Research Associate, was a close collaborator.

Great appreciation is due Mrs. Katherine H. Ford of the Upjohn Institute staff who reduced a longer study and readably preserved its essential integrity and continuity.

Ben S. Stephansky
Associate Director

Washington, D.C.
May 1974

PREFACE

This report was originally prepared for the Manpower Administration, U.S. Department of Labor, under research and development contract No. 80-11-72-11 with the American Institutes for Research in the Behavioral Sciences. Since contractors conducting research and development contracts under government sponsorship are encouraged to express their own judgment freely, this report does not represent the official opinion or policy of the Department of Labor. Nor does this report represent the views of the W. E. Upjohn Institute for Employment Research. The authors are solely responsible for its contents.

We are grateful to the Manpower Administration of the U.S. Department of Labor for the support of this study under Title I of the Manpower Development and Training Act, and to Dr. Richard P. Shore, who served as the agency's project monitor.

Several members of the Washington office staff of the American Institutes for Research lent notable assistance to this project. Dr. Ronald P. Carver, Senior Research Scientist, made helpful inputs in the early part of the project. Mrs. Doris G. Donohue, Administrative Associate, carried the major burden of manuscript preparation.

We thank the W. E. Upjohn Institute for Employment Research for undertaking to give wider dissemination to this work by this publication at the initiative of its Associate Director, Dr. Ben S. Stephansky, and for the editorial contribution of Mrs. Katherine H. Ford.

Albert S. Glickman
and Zenia H. Brown

Washington, D.C.
May 1974

THE AUTHORS

Albert S. Glickman is Deputy Director of the Washington office of the American Institutes for Research and Director of AIR's Organizational Behavior Research Group. (He had been an AIR project director 1952–1955, and he returned to AIR in 1967.) He was Chief of the Personnel Research Staff of the U.S. Department of Agriculture (1962–1967) and Director of the Psychological Research Department of the U.S. Naval Personnel Research Activity in Washington, D.C. (1955–1962). Earlier, he taught at the Georgia Institute of Technology (1947–1952). In 1952 he received his Ph.D. degree in industrial-organizational psychology from The Ohio State University, from which he also holds M.A. and B.A. degrees.

Dr. Glickman is the senior author of *Top Management Development and Succession* with Clifford P. Hahn, Edwin A. Fleishman, and Brent Baxter; he is coauthor of *Police-Community Action: A Program for Change in Police Community Behavior Patterns* with Terry Eisenberg and Robert H. Fosen, and of *Police Careers: Constructing Career Paths for Tomorrow's Police Force* with David Sheppard. In addition to these books, he has authored or coauthored more than 50 professional journal articles and technical reports in management, organization, and personnel areas. For several years he has been a consulting editor of the *Journal of Applied Psychology*. He is a fellow of the American Psychological Association in the Division of Industrial and Organizational Psychology and the Division of Evaluation and Measurement, a fellow of the International Association of Applied Psychology, and a member of the Society for the Psychological Study of Social Issues.

Zenia H. Brown graduated from Elmira College in 1963. Since then she has assisted with a variety of projects conducted by the American Institutes for Research. In addition to the project reported here, in which she served as Senior Research Associate, her research has included work on skills inventories, job evaluation, automobile and industrial safety, career motivation and occupational socialization, and educational evaluation. She has coauthored several technical reports in these research areas.

Miss Brown is a member of the International Sociological Association, Research Committee for Leisure and Culture, and of the Society for Humanistic Management.

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SUMMARY

In years past, work schedules were dominant in determining the life styles of individuals and how they used their time off the job. This is no longer the case for many people. In some occupations education and retirement, holidays and vacations, and Saturdays and Sundays add up to as much time or more time than time on the job. Business and industry in both the United States and Europe have been experimenting with changes in work schedules. But the luxury of greater flexibility in work time has created problems in the use of free time.

The emphasis in this report is upon issues, alternatives, and interactions involved in dealing with the problems of scheduling work time and utilizing free time beneficially. The report deals with the individual and organizational behavior side of the issues more than the economic side. Its orientation is frankly speculative, and hopefully provocative.

After a review of work-time and nonwork-time activity trends, we discuss recent experience with compact workweeks in the United States and with "flexi-time," which was initiated in Western Europe. Then we address the flexibility issue itself.

In certain types of work a worker must be available at a specific place at a specific time for a specific length of time. The structural characteristics of time, space, place, pace, equipment, laws, contracts, and organization of work upon which he is dependent often provide little or no room for changes in an individual's behavior. In certain other settings, the individual is "his own tool kit," and he can largely determine how to budget his own time and effort. And the number of jobs where this type of freedom is possible is increasing. Flexibility can be programmed into rigid job schedules, for example, by making better use of available computer programs to give the individual more choice in the days and hours he works. Such sophisticated tools can be used to assure that the job gets done, while more nearly optimizing the benefits for all. Mr. Anthony Benn, who has served as Minister of Technology in Great Britain, has voiced the potential and general goal thusly: "The evolution of modern management science will ultimately allow every single individual to be taken into full account in the evolution of social planning."

We can foresee an increasing *demand* for flexibility in working time. Past demands have usually focused upon decreasing the number of hours spent in working. But with *days off* approaching and exceeding *workdays*, there has

been a diversion of pressure toward greater flexibility. Although most workers still show a preference for more income over more leisure, as more and more people exceed the minimum acceptable standards for quality of life, there may be more striving for individual fulfillment in attractive ways that require more free time than income.

If indeed we can expect to see more demand for flexibility and more possibilities for achieving flexibility, what can we expect in the way of problems? Surely, the increased flexibility in time allocation to work and nonwork activities means increased complexity. There will be new requirements for management in business, government, and education. There will be new requirements for organizations, processes, and structures. There will be new requirements for auditing and evaluation procedures. These requirements must be met with new policies. And these policies must assure that the quality of life can be raised and extensively shared.

We shall need policies to deal with the conflicting roles, purposes, and values of trade unions and employers, for example. Both parties are likely to agree that the patterns of working time should be organized so that the individual worker ultimately derives the maximum possible benefits. However, there are disagreements as to what constitutes a benefit and how it is to be achieved. A case in point is the four-day workweek with 10 hours per day. Labor laws and contracts regarding overtime payment based upon the eight-hour day become an issue when the alternative is presented. In trying to determine whether increased flexibility of work scheduling constitutes a long-term benefit or liability for the individual worker, we need to consider the total quality of life that accrues from the tradeoffs among various nonwork and work options. Furthermore, we need to develop criteria for measuring the quality of life.

More employees than ever before are better educated and are expecting to reach more personally fulfilling, higher level goals through their work and their leisure. More employees than ever before want direct personal involvement in determining when, where, and how they will work and in assessing values and risks involved in their exercise of choice. These changing attitudes toward work can have a tremendous effect upon life styles.

When job routines become fully automated, we suggest the possibility of individuals vying to become workers, not because they need more money, but because they have the chance to do stimulating things that are not preprogrammed. The leisure class with free time on its hands may then be at the lower end of the social scale.

By the end of the century, the population curve for blue-collar workers may follow the same path as that for agricultural workers. The motives of different working groups may also be expected to change in different ways. When basic needs are fulfilled, motives change.

If populations and motivations are changing, then institutions must also change. For them to be sluggish in response to demands, is to risk their credibility and viability. Indeed, our institutions must adopt policies which have self-renewing flexibility built into them so as to be able to react sensitively to change. To legislate flexibility is difficult. Yet it is possible for government or any organization to take the lead in supporting the necessary research for establishing and changing policies. Perhaps nations *will* create ministries of "leisure and life quality" to complement the present ministries of labor so that clearer purpose and better coordination of activities and resources to such ends as "lifetime learning" can be achieved.

In the present instance, government can support an investigation of the actual and predicted effects of greater flexibility in working time. The possible role of new patterns of working time in stabilizing the labor market is a case in point. What can we expect? For many employers, a large dividend may accrue. A greater range of production, scheduling, work programming, and placement adjustments might contribute to less layoffs, slowdowns, absenteeism, and work stoppages. Greater flexibility within and between organizations could open up the job market to more women, older individuals, and the physically and socially handicapped. Contrary to conventional wisdom, we might ask whether stability in the labor market can be fostered through allowing more people to work for more than one employer.

It is not unreasonable to expect that increasing regulation of productive enterprise and work activity will be accompanied by comparable increases in control of nonwork or leisure-time activities. The complexities involved in coordinating the schedules of factories, stores, churches, schools, public services, and so forth must be dealt with. And the opportunities provided to learn how to use free time more satisfactorily must keep pace. If individuals are to take advantage of these opportunities, mass transportation schedules will need to be changed.

Increasing flexibility of working time carries with it complexities which can be dealt with only by formulating policies that deal with free time and working time in a wholistic context. To formulate such policies, we need long-term planning and coordination by all parties concerned in all sectors of society. If adequate policies are not adopted to deal with these problems,

then the potential benefits of greater flexibility to enrich life for the individual and for society at large may never be realized.

Myriads of questions emerge. What choices does the individual have with regard to working time and free time? Is he aware of them? Is he prepared to cope with them? Can he grow with them? What options in the scheduling of work are available to employing organizations? What advantages do they offer? What limitations do they impose? How do they fit into the total social, economic, and governmental scheme? What kinds of adjustments are required for individuals and for organizations immediately and in the long run?

The further we pursue our explorations here, the more it becomes evident that the production curve for questions is climbing more rapidly than the production curve for conclusions. The gaps between the two are large. To close the formidable gaps in our facts and in our understanding, we need to conduct research and experimentation with groups of people over time. One aim of this report is to point out where such gaps exist and to provide some examples of research to fill them.

I. INTRODUCTION

Background

Many features of work scheduling derive from historical customs and are rooted in conditions that are changing or no longer exist. The values attached to work and leisure are changing fast along with our life styles. How to optimize the expenditure of people's energy and purpose in productive and satisfying pursuits, on and off the job, is worthy of analysis within newly emerging contexts. It would be well to know more about how different patterns of distribution and utilization of hours of work and free time can affect the level of performance and the goals achieved by individuals and by the organizations and the society of which they are a part. Research is needed to develop new knowledge and an improved theory of work and leisure at a time when work schedules are becoming increasingly more flexible and people are seeking new sources of satisfaction.

With increasing frequency and prominence during the past three years, public attention has been called to a variety of experiments by various organizations with nonconventional scheduling of the workweek. Within one not atypical week, newspaper and magazine articles reported on an area of the District of Columbia Police Department which has departed from the five-day, 40-hour workweek and now employs overlapping 10-hour shifts; an advertising agency that now closes shop on Friday; and Lufthansa's "gliding work time" with self-selected arrival and departure times within a 12-hour day.

To be sure, many groups now have work schedules different from the five-day workweek to which most of our urban life is clocked. For instance, drivers of fuel oil and gasoline delivery trucks for most major oil companies have been on four-day scheduling for 30 years (Mortimer, 1971, p. 5). A number of studies have been published on the effects of the length of the work period on production and satisfaction. It has not been until recently, however, that much serious talk has surfaced, accompanied by an appreciable amount of action, about providing alternatives to the prevailing mode.

As of mid-1971, *Newsweek* (August 23, 1971) reported that over 500 firms in the United States were using some variant of the five-day, 40-hour workweek. According to further data provided to the Society for Humanistic Management, Kenneth E. Wheeler (1972), who has been studying these developments continuously, stated that 2,000 companies had adopted the four-day workweek as of November 1972. Though the number of people affected

is still small (one out of 840 workers, Wheeler estimates), the accelerated rate of involvements, including components of some of the larger corporations in the United States, suggests that the standard five-day workweek is no longer sacrosanct, and that experimentation with the four-day workweek and other new patterns of working time is more than a transient phenomenon. Not to be overlooked, in the same context, is the federal law that in 1971 put five four-day workweeks into the calendar by decreeing that five of our legal holidays should always occur on Monday.

In Europe, a companion trend has taken a somewhat different form, to which the label "flexi-time" has been applied. Lufthansa's "gliding work time," previously mentioned, falls into this category. An employee is given considerable latitude in how he puts together time on a daily basis to meet the standard weekly total requirement. For example, the firm's workday may be 12 hours long, and an employee's arrival and departure may take place anywhere within three-hour periods at the beginning and end of the workday. This allows for different arrival, departure, and total time each day, and may include carryover of time debits from week to week.

It is difficult to pinpoint causes for the marked increase of interest in these kinds of experiments. But it seems reasonably certain from remarks made in management and labor ranks that underlying most of the experiments is an effort to counter what are seen as critical conditions in absenteeism, declining productivity, turnover, work stoppages, and other indications of dissatisfaction and poor motivation in the world of work. The Survey Research Center of The University of Michigan (1971), in its late 1969 nationwide sampling, as part of the Survey of Working Conditions, sponsored by the Department of Labor, found a growing malaise in all segments of the work force, crossing occupational types, income levels, ages, sexes, and races. "Blue-collar blues" and "white-collar woes" go hand in hand. In situations where there are shortages of qualified personnel, employers may offer new patterns of working time as an attraction. An increasing generality of interest in these kinds of experiments was manifested at the International Conference on New Patterns for Working Time, sponsored by the Organisation for Economic Co-operation and Development, and held in Paris in September 1972.

A host of questions needs attention and evaluation by economists, behavioral scientists, and experts in other fields.

- What are some ways in which the business firm may benefit or experience difficulties as a result of changes in work schedules?
- How do conditions and kinds of work interact in the development of appropriate work schedules?

- How do various individuals and groups perceive their vital interests and relative influence to be affected by changes in work schedules?

- What impacts portend for industry, labor, government, and the economy because of changes in work schedules?

These are samples of questions for society as a whole that should be examined while alternatives and options are still open.

Improved understanding of the influences shaping work schedules and of the impact of changing schedules upon work itself and the labor force relates quite directly to concerns with manpower requirements and resources; technological change; employment and unemployment; personnel availability, development, and utilization; and job matching in the labor market. Research to keep abreast with or ahead of emerging trends in the scheduling of work is therefore essential to the development of informed and responsible manpower policies and programs.

The study of changing patterns of work can be regarded as an investigation of the impact of a new technology upon values; that is, a flexible work schedule or a shorter workweek, as it becomes a more typical pattern, assumes the status of a technological development (Samuelson, 1970, p. 7). As with any major technological change, alterations may be expected in value systems. It behooves us to become more sophisticated in anticipating how these altered values, in turn, will be reflected in labor laws and contracts, family life, trade union philosophy and tactics, political orientations, employment stability and mobility, economic theory, educational philosophy, and other aspects of the social system.

For these reasons, it seemed timely to embark upon this study of the patterns of working time, and to range from the basic conditions for determining feasible alternative schedules of work to the various kinds and degrees of impact they can have upon human performance, social processes and organization, and the quality of life.

Objectives

It was our ultimate aim in this study to make information available that could be drawn upon in the formulation of effective public policy and in the making of appropriate decisions by individual organizations. Three specific operational objectives were derived from the foregoing.

The first objective was to accumulate currently available information about innovative administrative experiments in work scheduling that might be

helpful in forecasting (somewhat speculatively, as befits anticipation of uncertain futures) the larger consequences of such changes. Our plan was to give particular attention to social and psychological adjustments involving alteration of people's life styles, psychological effects, family roles and functions, changes in psychological and economic needs, and the like. In developing insights and implications we took into account foreseeable influences on business, labor, government, law, and other components of society and culture.

In the beginning, stimulated by the four-day workweek experiments, then being publicized, our attention tended to center primarily on variations in the workweek and the potential outcomes of implementing alternatives to the five-day, 40-hour workweek. This continued to be an important aspect of our study. However, as we became more fully immersed in the subject matter, it was obvious that to make the related information and issues more meaningful our sights needed to be adjusted to encompass more of the systems context dealing with flexibility of working life as a whole. That revised orientation we attempted to assimilate in this report.

As a second operational objective, we planned—given the current state of knowledge—to explore implications for decisionmaking, policy, and practice that might provide insights and offer some guidance to individuals, organizations, and political and social institutions involved in anticipating and making ready for the changes foreseen.

Our final objective was to provide recommendations for such programs of research as might be indicated to fill the more significant gaps in facts about the effects of changing schedules of work.

This paper will be centered predominantly on the problems and adjustments of the individual. We shall consider what these problems and adjustments signify for business organizations on the one hand and labor organizations on the other hand. Of course, affecting all of the parties involved, the role of governmental and social institutions, together with their policies, must be taken into account.

Among the principal applications of the larger area of study into which our project fits, can be included the development of policies and programs to:

1. Increase the individual's ability to update skills and knowledge in step with technological change by mixing work and study.

2. Increase personal satisfaction and well-being by providing more opportunities for individual choice in work and other activities.

3. Make better use of time, space, and facilities by reallocating daily, weekly, monthly, and yearly periods of work and nonwork activity.

4. Offset labor market fluctuations through encouraging or discouraging education and other kinds of nonwork activities in order to adjust the supply of labor to variations in demand.

The magnitude and complexity of the issues involved can lead to endless discussion. Some constraints must be imposed. Hence, we shall attempt to be guided by certain organizing principles: (1) We shall concentrate upon the phase of life in which people are primarily members of the labor force (though relating to both the earlier preparatory stage and the later retirement stage to present the total developmental picture). (2) While we shall draw upon history for perspective, we shall devote most attention to looking ahead to the emerging postindustrial era. (3) While we shall draw upon experience and thinking in other countries, our focus will be upon the United States scene for the most part. (4) We shall subordinate prescriptions for solutions to problems in our attempt to generate creative questions and probing to reveal the need for knowledge, theory, and research—hoping thereby to stimulate more concerted systematic interest in the development of policy and in the support of programmatic research that is now lacking.

II. LABOR-LEISURE TRENDS

Before we start talking about trends in labor and leisure, we shall discuss some concepts of free time, its value, and options in its use. We shall also explain our use of the term "flexibility."

Concepts and Value of Free Time

In a broad sense, "free time" is the time that is "earned" in the course of paid employment. It takes the form of regularly scheduled days off (usually weekly) and time outside working hours on regular working days; holidays and vacations; and retirement. (Unrequited unemployment is not included in this definition of free time; nor is time lost through sickness or disability.)

"Free time" is used here to mean the time that a person can allocate at his discretion among various activities, based upon the relative values and priorities that he assigns. In this he is guided by his own appraisal of needs and the potential for their satisfaction he believes to exist in the various alternatives of which he is aware, and that are within the resources and range of opportunities available to him. The value of time varies greatly. The value assigned to a particular period of time is weighted by the psychological satisfaction derived by one's activity in that period. DeGrazia (1962, p. 142) makes the point vividly that time is not simply "a moving belt of equal units," and that "a moment of awe in religious experience or ecstasy in love, or orgasm in intercourse, a decisive blow to an enemy, relief in a sneeze, or death in a fall" is not equal to "a moment of riding on a bus, shovelling coal, or eating beans."

Different schedules of work provide different amounts of net usable, individually disposable time, or make for greater or lesser efficiency in the use of such time. When organizations reduce or alter their work schedules, careful analysis needs to be applied to ascertain how much net disposable free time for individuals is increased or decreased and what the degrees of freedom are in disposing of that time. Larger chunks of free time generally offer the individual more options in using the time.

Options in Using Free Time

Two major options exist for the use of free time—nonpaid activities or additional employment to increase income. The nonpaid activities include: maintenance activity—such as rest, health, shopping, family and home care, transportation, and citizenship duties; recreational activity—such as sports, entertainment, social and cultural activities, reading, radio listening, television watching, and interpersonal relations with friends and family members; and

educational activity—learning for self-satisfaction and social utility, as well as for improvement of one's occupational opportunities.

The division between paid work activity and nonwork activity is somewhat arbitrary since, in fact, there may be considerable overlap in the purposes of the two. For instance, the worker may be the beneficiary of training and education supported in whole or in part (i.e., paid) by employer or government as an investment in human capital. The support aims to improve the present or future quality of job performance, opportunity for advancement, or the person's performance of other functions considered to be a value to self and society. Or, the man or woman may invest his or her own time and capital for much the same purposes.

At present levels of income, a substantial proportion of workers show a preference for more income over more leisure. They have not yet reached the standard of living to which they aspire. They are not yet ready to work fewer hours or to stop working in order to enjoy life at the level that they have currently attained. And, of course, there are still substantial numbers in our population living at a less-than-subsistence level for whom there is no choice.

Flexibility

The term "flexibility" is used in the present context to represent the range and variety of options and patterns available in the allocation of time to employment, education and training, leisure, rest, and retirement. Against a time dimension, flexibility may be viewed cross-sectionally in terms of the activity mix in patterns existing at some given point, or over some span of time in terms of composition and change. In the more or less conventional sense, in which work time is thought of as being quite rigidly programmed, reduction in working time has been associated with increased overall flexibility, with more options and discretion coming within reach of the individual as more free time is placed at his disposal. However, the definitions of work activities are in process of change, and the latitude in scheduling time and content of work has been expanding. Consequently, it can no longer be said with validity that flexibility is primarily a concomitant of increased free time.

Declining Work Time; Increasing Free Time

Patterns in all industrial societies are consistent with regard to trends in the allocation of time to work and nonwork activities. Measured in hours per week, or years in a lifetime, the proportion of an individual's time devoted to paid employment consistently declines. Years of formal schooling increase. Entrance to the work force starts later. Hours in the workweek decrease. The

number of holidays and the duration of vacations keep going up. Retirement starts earlier. And, while curves based upon various assumptions may differ, future projections all point to continuing movements in the same direction. A few illustrations for the United States are provided here.

Denis F. Johnston (1972, p. 4) provides data which show the change since 1900 in expectations of an average 20-year-old working man in the United States and reflect a declining proportion of life spent in the work force (see Table 1).

Table 1

Changes in Expectations of an Average 20-Year-Old Working Man in the United States 1900, 1950, and 1968

Item	1900	1950	1968
Life expectancy (years remaining) . .	42.2	48.9	49.2
Work life expectancy (years)	39.4	43.1	41.5
Retirement expectancy (years) . . .	2.8	5.8	7.7
Percent of life in retirement	6.6	11.9	15.6

Also worthy of particular note is the change in recent years in the education this average man brings to work. The *Current Population Survey* of the U.S. Bureau of the Census shows that the typical American young man now (March 1972) has completed almost a year of college—almost two and one-half years more education than his father had in 1940. The goals of this young man are certainly likely to be different from those of his father.

Moore and Hedges (1971) provide a number of useful indexes of trends in labor and leisure. Perhaps the best long-term indicator is the average weekly hours per worker in the civilian economy. Their data show a decline since the turn of the century from above 53 hours to below 40 hours per week, with some reduction in the rate of decline after World War II.

Paid vacations, holidays, and other forms of free-time benefits have, since World War II, assumed far greater relative importance than before. More than two-thirds of all workers in the private sector of the economy now get paid vacations. From 1960 to 1969 alone, worker annual vacations increased from

1.3 to 1.7 weeks for all workers; from 1.8 to 2.2 weeks for full-time workers. Furthermore, from 1959 to 1968, on the average, holidays increased three-tenths of a day for office workers (to 8 days) and seven-tenths of a day (to 7.5 days) for plant workers.

Over the decade 1960–69 there was an average annual gain per worker of 49 hours in free time as a result of reductions in the workweek and increases in vacation and holiday time. Gains in productivity during the decade could be equated with an average saving of 650 hours in work time.

Free-Time Potential Created by Productivity Gains

When the 3 percent average annual productivity gains of the past 20 years are projected ahead, the potential range for collective choice of increased leisure or increased income becomes quite impressive. If the expected output gain were taken entirely as free time, the workweek in 1980 would be 29 hours. Past history indicates such a division between shorter work time and higher real income is not very likely. Nonetheless, we do see that a substantial change could come about if some marked alterations in value systems were to become part of new social and economic policies.

In this regard, Dr. Juanita M. Kreps (Kreps and Spengler, 1966, pp. 363–365) provides some illustrations. If we suppose that the division of productivity gains will be the same in the remainder of this century as in the first half—two-thirds in increased goods and one-third in time free from work—then the growth in free time would be sufficient to make goals such as the following attainable. By 1980 a 2.5 hour decline in the workweek could be realized. At that time society could exercise a choice to retrain 4 percent of the labor force or to add about 1.5 weeks to annual vacation time. Or by 1985 the choice could be between retraining almost 7 percent or providing three more weeks of vacation. Other combinations are possible, of course.

Generalizations About Group Choices

Other data give us some clues to the personal and situational variables that can influence individual and collective choice of time-utilization options, and they induce restraint upon the sweep of generalizations that can be made.

In general, younger workers, older workers, and married women seem to prefer shorter working hours to additional income. Most part-time workers who do not want full-time work are in these groups. Married men in the prime working years are likely to choose more income over more leisure. It should also be noted that overall increases in leisure time are not shared proportionately by executives, proprietors, professional workers, and farm workers.

Nor should we overlook housewives. It is noteworthy that while working women spend about half as much time on housework as do housewives—and the proportion of women working continues to increase—there are indications that the women who do stay at home are now actually spending more time at home management chores than did their mothers. Though "productivity" in food preparation and ironing has improved significantly (time requirements have been decreased by the use of prepared foods and no-iron fabrics), time spent in shopping and travel (e.g., associated with household errands and chauffeuring children) and in home maintenance (including the care and repair of "labor-saving" appliances) has risen significantly (Robinson and Converse, 1972, pp. 45–51).

In a more affluent society there are a lot more "things" to take care of at home, for full-time and part-time housewives, and for the men who live there too. These priority claims on "nonworking" hours can cut into the time and choices that are "free."

Overtime Alongside Reduction in Workhours

Some reductions in scheduled hours of work obviously have been bargains struck to increase overtime earnings rather than to gain free time. Thus, the straight-time workweek reduction in manufacturing from 37.6 to 37.1 hours, between 1956 and 1968, was more than offset by a rise in overtime from 2.8 to 3.6 hours.

Overtime is estimated by the U.S. Bureau of Labor Statistics to involve more than three times as many people as moonlighting. According to that bureau, in 1970 the average weekly hours of full-time civilian workers appreciably exceeded the 40-hour standard. In that year the average for this group was 45.1 hours when such increments as overtime and moonlighting were added, but for *all* civilian workers the average was less than 40 hours. For full-time workers the change in scheduled hours was only 0.7 hours in 10 years.

Realistic Expectation

Extrapolating through the seventies, Moore and Hedges (1971) see overall reductions in actual hours engaged in paid employment as being quite small, with attention centering upon the reshuffling of free time to provide larger blocks of leisure.

III. EXPERIENCES WITH NEW PATTERNS OF WORK TIME

In this chapter we shall describe several of the possible arrangements of work time; explore findings of research and evaluations of new time patterns; and detail some company experiences. We shall also initiate consideration of the critical issues and influences involved in these innovations as part of the larger context of changes in work and free time and in life style and quality that lie ahead of us.

Arrangements of Working Time

Bolton (1971) summarizes the following kinds of workweek or workhour arrangements, some of which are not widely known in the United States:

1. *Fixed working time.* Under this system the starting and stopping times for each day are fixed. Each employee must be at his workplace at the appointed hour. Individuals are rarely allowed to start and finish at times different from those set for other workers. Time clocks, attendance registers, or personal observation by supervisors control punctuality, and deductions may be made from the paychecks of workers who are late. The five-day, 40-hour week is the prevailing mode in the United States. Three other forms are described below.

   a. *Compact workweek.* This is best illustrated by the four-day, 40-hour week. Mostly instituted by management, this arrangement, it has been said, leads to reduced absenteeism and turnover and increased production because employees know they will have a long weekend and fewer days to work. This schedule, according to its advocates, more than compensates motivationally for the discomfort and inconveniences of a longer workday. Although 4/40 is the general term used for discussion purposes, some companies' arrangements include reduced work time of 38, 37½, 36, or in a few instances, 32 hours a week. There are also three-day workweeks of 36 or 39 hours which are used mostly by insurance companies in their computer operations for better utilization of equipment.

   b. *Shift work.* Shift work used to belong, by and large, to the world of the production worker; the advent of the computer has introduced it to the white-collar worker. Shift work is a system of fixed working hours with predetermined starting and finishing times. This system enables management to make better use of the capital equipment employed, and to increase capacity by better organization of plant and human resources. There is no real advantage to the em-

ployees—except perhaps a monetary premium for working longer or more inconvenient shifts. The compact or reduced workweek can apply here also.

c. *Staggered working hours.* In order to alleviate the discomfort of rush-hour traveling, some offices use starting and finishing times which are staggered at intervals of one-quarter to one-half hour. Employees are allocated, or allowed to choose, their starting time; this, in turn, determines their finishing time. The employees have to work a constant number of hours each day, always between the same starting and finishing times.

2. *Rational working hours.* This system is based on the premise that it is uneconomic to staff departments for peak workloads which occur perhaps one day of each month, or one month of each year. Exceptions apart, it is often possible to predict levels of activity accurately; so contracts of employment provide for more hours to be worked in some periods than in others, or on some days than on others. A contractually agreed-upon maximum per month or year must, of course, be observed.

3. *Variable working hours.* This concept gives each employee complete freedom in the choice of times he decides to work, subject to his completing the contractual number of hours, and to his ensuring that during "standard" defined working hours a deputy is available to carry out essential work in his absence.

4. *Flexible working hours or "flexi-time."* Each employee is allowed to start and finish his working day, within certain limits, when he or she pleases. A core time—certain specified hours of the day—must be worked by everyone. For the rest, the employee can decide for himself how he accumulates, within a given period, the total number of hours he has contracted to work. Outside of the core time, he can arrange his starting and finishing times to suit his personal requirements. This stretches the overall working day of the organization by one or two hours in the morning and in the evening.

We shall examine more closely two of these newer concepts currently receiving much publicity, paying particular attention to compacting the workweek on a fixed schedule, and to flexible work time. The former has had increasing popularity in the United States during the past few years, while the latter has been growing rapidly in use on the Continent, especially in Germany and Switzerland.

Problems Associated With Compact Workweeks

Although much has been written about the four-day week, and many conferences and seminars have been held on its benefits and problems, there are little adequate data on its long-term effects on workers. This is the first point which must be recognized in any discussion of alternate work forms.

The second major point is that few large companies have had any experience with a four-day week. Firms on such a schedule are generally small, employing less than 500 people, and are non-union. Even where the four-day week is in effect in large organizations, we find that, with only a few exceptions, it is in small departments where the total number of employees either experimenting with or regularly working on such a schedule does not exceed 500 to 600. Two such exceptions are United Services Automobile Association with 3,000 employees on a four-day schedule and Samsonite's furniture plant in Tennessee. (These firms will be examined in more detail later in the chapter.)

Why have large organizations not tried the four-day week? For the most part, organized labor has been against it. Labor's position is best summed up in the words of Mr. Ruby Oswald (1971, p. 281), an economist with the Department of Research, AFL-CIO: "Organized labor has been the pioneer and the driving force in the reduction of working hours. We support the shorter workweek and shorter workday. We support labor-management efforts to re-schedule working hours, through collective bargaining. But we are adamantly opposed to stretching out the workday and nullifying the 8-hour standard."

The "8-hour standard" which Mr. Oswald lauds is buttressed by federal and state laws which call for time and one-half pay for work in excess of eight hours a day and/or 40 hours a week. For example, the Walsh-Healy Public Contracts Act of 1936, which covers employment conditions for firms with government contracts in excess of $10,000, limits the hours of work to eight in one day unless overtime is paid. Hearings held by the U.S. Department of Labor (1971) to consider waiving the eight-hour limit resulted in the decision not to change overtime regulations (U.S. Department of Labor, 1972). Generally, most submissions advocating changes in the overtime regulations came from small private firms, employer associations, and management consultants; opposition to a change in regulations came mostly from labor unions. Although the Contract Work Hours and Safety Standards Act, which applies to construction contracts, can be waived by the Department of Labor on a showing that it is necessary and proper in the public interest to

prevent injustice or undue hardship or to avoid serious impairment of the conduct of government business, the Labor Department feels that it is undesirable to waive one act and not the other. Many states have laws which restrict the daily hours of women and minors, but some of these laws are being challenged by Title VII of the Civil Rights Act of 1964.

Many large companies have not tried work arrangements other than a five-day, 40-hour week because of scheduling problems. This may best be illustrated by talks between Chrysler Corporation and the United Auto Workers Union (one of the few unions not against the 4/40). For example, the transportation flow of parts from the supplier was scheduled to integrate closely with assembly-line operation (in effect, the assembly line may be thought of as extending to the highways and railways). Hence, a reduction in the number of days of plant operation, even if the total number of hours remained unchanged, would require a large investment in construction of stockpiling facilities, according to Chrysler. The union did not agree, saying that at that time there were plants working different schedules, but it was not inclined to press the issue. Perhaps the union assumed that it would not be too long before the workweek reached a 32-hour average; and that would make a 4/32 week an operational alternative.

Another aspect of the problem was that in two shifts of 10 hours with an hour between shifts for change of personnel (parking lots also need to be emptied and refilled between shifts), the downtime left during which maintenance activities must be carried out would be reduced from seven hours to an insufficient three.

The effects of fatigue from a 10-hour day on a four-day schedule are not really known since studies conducted on fatigue have always been based on a five-day week. Some companies use the four-day schedule to gain overtime to be worked on the fifth day. This practice gives weight to consideration of the dangers of fatigue.

Many of the current work standards were established in the 1940's. Since then, technical advances have considerably decreased physical burdens on the worker. There is a need to review standards in light of present conditions—and here we would include the mental and emotional consequences of the four-day week. Many of the problems associated with fatigue depend on the kind of work performed. Where there are high physical and mental demands, a four-day week may not be appropriate. An experiment with a four-day schedule at Heath Techna Corporation in Kent, Washington, was terminated because it proved too tiring during warm weather, according to the International Association of Machinists. Yet another version of the compact work-

week seems to work quite well with computer operators. For a broader discussion on the physiological and psychological effects of working time, see Chapter V.

The Metropolitan Life Insurance Company has had its computer operations staff on a 12½-hour, three-day week since May 1970. People are permanently assigned to one shift or the other. They found it best to keep most of the married people on the day shift which runs from 7:30 a.m. to 8:00 p.m., and most of the single people on the night shift, which runs from 7:30 p.m. to 8:00 a.m. This system seems to reduce turnover and absenteeism. Instead of working three days straight, they work two consecutive days, break for one day, then work one day. Of the 500 employees originally in this department, only seven dropped out when the plan went into effect. The problems involved in this arrangement are mainly rescheduling work when someone is sick and taking more time to complete projects than before the change. It is thought that this may be due to splitting up the work time into two days and one day (Neitlich, 1972). This may or may not be true. Until the schedule above can be compared with straight three-day and five-day weeks, it is difficult to reach a firm conclusion about fatigue effects under these conditions.

Experiential Data

We shall now examine some general reports on the effects of compacting workweeks, and then examine some case histories to point up the variety which exists and more of the benefits and problems involved.

Steele and Poor study (1970). The first survey of companies on the four-day week was conducted by James L. Steele and Riva Poor. Out of the 27 companies which they originally found to be working on some version of a compact workweek, 13 were included for in-depth study. Since the 13 companies used in the study were not identified, and 27 were identified in the index, there are some questions about just what kinds of situations were represented. Another problem with the sample is that the possible variations in workweeks makes it difficult to evaluate the in-depth study. For example, some firms had reduced the number of hours of work but expected workers to work their extra day off as overtime if needed; other firms used a four-day week only on a certain shift. Still others effected schedule changes only at certain times of the year, like McDonald's Corporation which switched from a five-day week to four and one-half days during the summer only; or Reader's Digest where the normal workweek was 5/35, except in May when it was 4/28. Also, some of the firms had discontinued the four-day week at the time the survey was conducted (Poor, 1970, p. 106).

Since Steele and Poor did not state which companies were included in the study and since variations are so great, comparisons and summaries are not too meaningful. However, with a strong note of caution, the main results of their survey are given here as matters of interest.

Of 700 questionnaires sent to the companies, only 168 were received in time to be included in the study. Their findings indicated that workers liked their companies more than they had before, or at least no less than they had before converting to the four-day week. Out of a group of 141 workers, 87 cited no disadvantages when asked to compare advantages and disadvantages of the four-day week; 46 workers cited both advantages and disadvantages, and eight cited no advantages. When asked about moonlighting, 17 percent of the sample indicated that they did--a relatively high proportion when compared to about 5 to 10 percent reported in other studies (see Wheeler study, 1972, treated later in this section). However, extra shift work was classified as moonlighting (some companies encourage or require overtime ranging as high as 20 hours a week); also included were work in one's own business (especially farms) and second jobs.

Of the new workers whom Steele and Poor surveyed, a little more than three out of four said that the four-day week was an important reason for their joining the firm; among managers, the proportion was also three out of four. Managers reported that the attitude of workers towards their work was better on the new schedule than on the old one. Scheduling problems loomed largest in managers' reports on the new workweek.

Wilson study (1971). One hundred companies on a four-day schedule were solicited to participate in a survey conducted by James A. Wilson. Fifty-four companies complied and distributed 1,400 questionnaires, of which 633 were usable and coded (a return rate of 25 percent of the total mailed or 45 percent of those distributed).

To summarize the results of the survey, Wilson said:

> We found that about three-fourths of the employees currently on a rearranged work week were in favor of the schedule. They enjoyed their work more, were no more tired and felt that few personal or job-related problems had been created by the new schedule. Some spent more money on leisure activities [mostly unmarried] and others indicated a willingness to work more days or hours at a stretch. For a small number of employees, the schedule was viewed very unfavorably (less than 10 percent). These persons were less happy with their work, were more tired and wanted to resume a five-day eight-hour schedule. (Some few

companies are allowing such dissatisfied employees to resume the traditional schedule on their own without apparent problems to the organization.)

Wilson made an additional analysis in an attempt to find the underlying causes and trends in the whole sample. The factors thought to influence attitudes included: sex of the subject, marital status, age, occupational classification, combined sex and marital status, type of company, regional location of company, and whether the company is unionized. "The *general* findings of this additional analysis were: *no single factor adequately explains why or which people like the rearranged schedule and those few persons who dislike the new schedule are similarly varied on most factors.*" As in the Steele and Poor survey, no information is included as to how long each company was on a four-day schedule, or how the schedules operated.

Study of Wheeler, Gurman, and Tarnowieski (1972). These authors studied 811 companies for the American Management Association, of which 140 were on some type of four-day plan. They compared opinions of company executives on the four-day week to those on a five-day week and found that these executives differed almost 180 degrees in their conclusions. For example, 84 percent of the executives in companies not on the four-day week or not considering it believed that the shortened workweek would be harmful to business performance. Among the four-day companies, 80 percent of the executives said that business performance would improve. The four-day week had increased scheduling problems, but they said that this had been made up for by an increase in productivity. Only 3 percent of the executives in the four-day companies said that they had a decline in productivity. Among the companies on a four-day plan, most executives mentioned that one of their objectives in adopting the schedule had been to provide an additional employee benefit. However, in 69 percent of the cases, the objectives were centered on business results, and only 31 percent were employee-oriented. Among those companies on the four-day week, 25 percent of the executives were also on the four-day schedule; 58 percent had not changed schedules. It is interesting to note that the 140 companies had 23 different types of schedules. By far the most popular was the 4/40, but they ranged from 3/34.5 to 4.5/40.

Wheeler study (1972). In his followup of over 100 companies which he had assisted in converting to four-day schedules, Wheeler states that productivity rose 5 percent across the board. Some of this is no doubt attributable to the fact that generally the companies had cut out 20 percent of the coffee breaks and startup and shutdown time by changing to a four-day schedule. If methods like work simplification are applied without giving the workers an

added benefit, productivity may go up; but it would not be as palatable without something for the worker. Wheeler feels that the four-day workweek offers extra benefit to the worker. He claims that in companies which have used the four-day week and other management tools to increase productivity the gains can be as high as 20 percent.

Wheeler found that absenteeism had dropped in 80 percent of these companies. The most likely reasons for this, he says, are that workers have an extra day for personal chores and there is a loss of 25 percent in pay if they are out for one day. He claims that the moonlighting rate dropped to 10 percent after the new schedule had been in effect for a while.

Nord and Costigan study (1973). In an attempt to find out how people perceive the effects of the four-day week over time, a study of a pharmaceutical company in St. Louis was conducted by Walter R. Nord and Robert Costigan.[1] The plant is medium-sized, non-union, and employs approximately 100 males and 100 females whose average age is in the late forties. Surveys were conducted three times: the first, six weeks after the trial period began; the second, one and one-half months later, and the third, one year from the start of the trial period. Management described the people as a close-knit group; many of the workers are related to each other. Only foremen, group leaders, and lower level employees who worked in the plant at least 10 of the 12 months covered by the survey, and who were working there at the time of the first and third surveys, were included in the analysis. The number of questionnaire returns from each survey were: first, 131; second, 126; and third, 111. Only 59 respondents completed all three questionnaires, but for most analyses each survey group was shown separately to indicate changes over time.

The researchers found that generally the overall attitudes were highly favorable toward the four-day week. Over time, it was found that respondents who were less satisfied with the four-day schedule were more likely to be on low pace-imposed jobs (office, janitorial, maintenance, and cafeteria personnel); to have fewer plans for the weekend; to have more recreational plans than task plans; and to perceive changes in their jobs as having little merit as a means of achieving company goals. Older workers were more likely to have task-oriented plans for the weekend, and younger workers to have recreational plans. If children were living at home, respondents tended to see the four-day schedule as having unfavorable consequences on homelife. The propor-

[1] This is the only analytical study with substantial longitudinal data that we have come upon so far.

tion of negative changes on homelife increased significantly over time, with females regarding the four-day effects on homelife more favorably than did males.

The authors stated:

> A possible explanation for these findings is that females experience inter-role conflict between their job outside the home and their role of homemaker. Their new full day of leisure permits them to catch up on housework which the social norms of our society still require of women, even those who are employed outside the home. Their new leisure time is more structured and they feel better about their performance of one of their major social roles. Males, by contrast, have fewer tasks which are expected of them in their role at home. They make more recreational plans but do not feel the increment in satisfaction from a reduction in inter-role conflict that females might experience. If future research replicates these findings, and our sex roles do not change radically, it may well be that the four-day week will be of greater benefit for females than for males.

The Nord and Costigan study also showed a decrease in absenteeism of 10 percent that held up over time when controlled for seasonal factors. As previously noted, this factor was treated in Wheeler's 1972 study.

Many questions come to mind about studies that have attempted to evaluate the four-day week. Some of them are: What are the different types of benefits at these companies and how were they changed (if they were) when the new schedule went into effect? What has been done about pay rates; do they cover time and a half over eight hours, or is the base rate revised so that the paycheck remains the same before and after the change? Also, are all of the people in each company on a four-day schedule or only some of them; and how does this affect employee attitudes? How do different work schedules affect husband and wife? What other types of changes were made besides changing the schedule of work? The productivity effects of the four-day week have been hard to measure because of other changes that have been instituted at the same time.

Case Studies

To show some of the variability in schedules, situations, and experiences where the compact workweek is in effect, we shall now present several brief case histories.

United Services Automobile Association (USAA). In October 1971, USAA decided to try a 12-week experiment to see if the four-day week would be desirable as an employee benefit. The experiment started in November 1971, and had to meet the following objectives (McDermott, 1972):

1. Service to members must not be diminished.
2. Individual productivity must be maintained at, or better than, the current level.
3. Any change in the workweek must offer substantial benefit to both USAA and the majority of the employees.

The main concentration of USAA employees is in San Antonio, Texas. Ninety percent of their work force of 3,000 went onto a Monday through Thursday workweek of 9½ hours per day with a 30-minute lunch break; about 200 employees went onto a 9½-hour Tuesday through Friday schedule. A five-day, 40-hour schedule was followed by 35 people, but they were not in the San Antonio office. Forty to 45 people were on a three-day, 12-hour schedule; they were the employees in Computer Operations and the building guards.

As part of the workweek change, vacations were also changed. Previously employees accrued eight days of vacation leave every 12 months. On the new schedule they were to accrue leave every six months after one year of service. On the old schedule eight days of vacation amounted to 12 calendar days; on the new schedule, to 17. Paid holidays were abolished in the four-day week; they were traded for the shortened workweek. Since most federal holidays now fall on Monday, employees work Tuesday through Friday in holiday weeks. USAA has seriously considered a plan to do away with federal holidays since many people complain about a four-day weekend, working four days, and then a two-day weekend.

These were the results of the experiment after about one year. With USAA services available to the public 10 hours per day, five days a week, direct inquiries from members increased, on the average, 18 percent per week. The average turn-around time to return a policy to an applicant declined from 10.5 days to 6.8 days (a computer in the Underwriting Department contributed to this improvement significantly). The error ratio dropped from 7.2 percent to 6.1 percent. No complaint letters were received from members concerning the four-day week, and total complaint letters decreased. The individual productivity records went up from a base period of 99 percent to 102 percent for the total test, or 103 percent, excluding the Thanksgiving,

Christmas, and New Year's holiday weeks. Sick leave of less than one day went down 12 percent (no base-period record is given). Job turnover decreased from 25 percent to around 18 percent (they had been working on this problem since 1969 when turnover was at the 45 percent level). Only two employees out of a work force of 3,000 left when the four-day schedule was instituted. In an employee survey conducted after the four-day week was in force, 96 percent thought that the new schedule was a good idea, 94 percent agreed that they liked their job better, and 93 percent did not find the longer day too fatiguing.

One of the reasons for apparent success of the experiment might be that the average age of USAA employees was about 25, of whom 80 percent were women. Also, the San Antonio area had a number of child care centers open from 7 a.m. to 6 p.m. which accommodated quite nicely to the company hours of 7:30 a.m. to 5:30 p.m.

Although USAA is the insurance company having the largest number of employees trying out the four-day week, other insurance companies have also been in the forefront of experimentation with three- and four-day weeks.

John Hancock Mutual Life Insurance Company. The Boston office had about 6,000 employees in February 1972 when 217 of those employees (mostly low-level clerical employees with some of their supervisors) in four divisions were put on an experimental four-day, 35-hour workweek. The 4/35 experimental schedule compared to the regular company schedule of 5/37.5. The day was from 8:15 a.m. to 5:30 p.m. with 30-minutes for lunch. As of October 1972, 420 employees were added to the experiment. The new group consisted of generally higher level personnel including accountants, programmers, and one department head.

An evaluation of the experiment was scheduled for April 1973 to determine whether to convert the whole company to the four-day week or to resume the five-day week. Employees in the experiment were highly in favor of the new schedule, but the basic question underlying the compact workweek was what impact it would have on the amount of work accomplished by each division. To evaluate the experimental workweek, three questionnaires were administered: the first, two weeks prior to the start of the new workweek, was used to measure the expectations of advantages and disadvantages; the second was administered three and a half weeks after employees had been on the new workweek and compared these expectations with their actual attitudes; and the third questionnaire was administered the week after the experimental period had ended to measure the overall degree of change (employees were still on the new schedule at the time this questionnaire was

administered). Measures of productivity were chosen separately for each division, and the results of the experiment, both on productivity and other factors appear below (Janetos, *et al.*, 1972):

1. The level of productivity on the 4/35 schedule was comparable to that on the 5/37.5 schedule.

2. Having an extra day off did not decrease the frequency of miscellaneous unpaid absences.

3. Even though employees reported that they liked the four-day week, it did not decrease terminations.

4. Fatigue did not seem to present a problem.

5. Employees generally liked the new schedule and the day off. The majority of workers reported that they would rather work longer hours for four days than work five days.

6. Most employees said that the new work schedule did not interfere with their home duties.

7. Most employees said they did not spend more money on their day off.

8. Almost half of the employees reported that it was easier to get to work, and there was a slight upward trend to this response at the end of the experimental period.

9. Employees did not find their jobs more interesting because of the new workweek.

An interesting collateral note in the John Hancock experience is that the initial experimental phase was announced in advance to be a temporary change of schedule of only three months' duration, with further decisions then to be based upon evaluation of findings. It became obvious, however, that attempts to revert to the *status quo ante* would be replete with another set of problems in reorienting employees' attitudes and work schedules and habits, whatever management's opinions or "objective indexes" might indicate. Obviously, it is not a simple matter to turn work patterns on and off, and companies should therefore not lightly contemplate the consequences of "successful" experiments.

Equitable Life Assurance Society. The data on Equitable are of particular interest because this company probably has the longest history of performance of organizational units and employees under new workweek schedules.

Because of the heavy workflow involving data processing equipment, six years ago Equitable adopted a new schedule within its computer operations, seeking to get the maximum productive value from expensive equipment and associated high fixed costs. Employees were asked to participate in the decisionmaking of what kinds of schedule would best meet the company needs and employee needs. It was decided to go onto a three-day shift within a six-day operating week. Four shift teams work in rotation—two days on, two days off, one day on, two days off, on the daytime shift. Then the same cycle is followed on night work. There is an hour overlap between shifts to coordinate workflow. Each shift works 13 hours with two half-hour breaks.

Management has found that the utilization objective was met, and has had no difficulty in staffing the operations. Turnover is not a problem, and absenteeism is within the limits of the average absence rates of offices working five-day schedules.

Having met with success in computer operations, management next turned its attention to other areas that might benefit from better workweek arrangements.

The following criteria were established as a basis for applying new schedules in other parts of the company:

1. Space for the operations is at a premium.
2. Fuller utilization of equipment could achieve cost savings.
3. There are periodic overtime demands.
4. Job design characteristics are not overly specialized or there is good backup for each job.

The next place chosen was the data entry operation (keypunch or keytape) which was also machine-based work. When this operation became centralized at one location, management talked to employees about the possibility of trying a new workweek schedule with a view to utilizing the equipment better and increasing productivity. While 300 men were employed in computer operations, 180 women were employed in data entry as operators and firstline supervisors. The women were not willing to give up Saturday; so a plan was devised whereby they would work four days a week, 9 hours and 50 minutes a day, with 45 minutes for lunch and a rotating day off. The plan was evaluated after it had been in operation for two months, and the results showed that the quality of individual performance improved substantially, attitudes toward workhours improved markedly, and absenteeism decreased significantly.

Other managers, hearing of the new schedules, became interested in trying them out in their departments. One of the technical bureaus decided to try the four-day schedule. This bureau provides technical consulting services related to group insurance operations. Since coverage over a five-day week was considered essential, a plan was evolved which used rotating days off. Hours were from 8 a.m. to 6 p.m. with 55 minutes for lunch. It was hoped that there would be improved utilization of space and equipment by having employees rotate desks. Also, it was expected that there would be greater accessibility to time-sharing equipment during nonpeak workhours, a reduction in employee startup and closedown time, reduced absences, fewer commutation delays, greater flexibility in scheduling overtime, and increased opportunity to develop backup supervision. After three months on this schedule, an evaluation of the operation showed the following results:

1. Productivity increased over the 1970 base period, but the ability to complete and release work within time standards decreased. Managers claimed that this was due to factors other than the four-day schedule.
2. There was no change in absenteeism.
3. The relationship with clients was unaffected.
4. There were increased problems of controlling absences and workflow, but they were minimal and could be worked out.
5. Desk rotation was not an acceptable concept.
6. The hoped-for greater flexibility with overtime was not as practical or favorable as the company originally thought it would be.
7. There was better use of office equipment and time-sharing terminals.
8. It has hastened the development of assistant supervisors.

A useful observation made by Dr. Vris of Equitable (1971) was that, once a new schedule has been installed, as in the case of John Hancock previously cited, it is hard to remove unless convincing evidence of adverse effects in terms of productivity, costs, and efficiency is presented to the employees.

In general, the research results on all three types of work and schedules showed that fatigue was not a crucial factor on longer workdays. For machine-based work the main effects were in terms of savings accomplished by better workflow and use of facilities. No important advantages accrued by putting white-collar workers on a new schedule, except in concentrating

workflow cycles and as a personal benefit to employees. There was no convincing evidence of positive effects upon work motivation attributable to the changed schedules, meaning that the nature of the work itself is a more important determinant of the motivation of workers.

Samsonite Corporation. Samsonite's furniture manufacturing plant in Murfreesboro, Tennessee, initially tried the four-day week in November 1970. At the end of three months when the contract expired, the union went on strike (but not because of the four-day week). There were 1,000 employees at this plant, and everyone from the plant manager to the janitors was on the four-day schedule. Because of the strike, they were not able to go back on the four-day schedule until September 1971, since it took the intervening time to fill the back orders. Part of the problem with the Samsonite experience is that the employees work a lot of overtime so that there has been an increase in absenteeism, turnover (which initially went down), and in scrap or rejects. Their main reason for deciding to try the four-day schedule was to be able to choose better quality applicants, which to some extent they have succeeded in doing.

The plant works on two shifts, one from 7 a.m. to 5 p.m., and the other from 5 p.m. to 3 a.m. Each shift has a half-hour lunch and two 10-minute coffee breaks. Employees are paid for 41 hours of work, even though they are actually on the job only 38 hours. They were allowed to decide which shift they wanted. Everyone has Friday off. Of the 1,000 employees, 40 percent are women and 60 percent are men. Employees report that they are more tired now than before, but they will not give up the four-day schedule. Officials of Samsonite are closely following the accident record of the workers and report that it did go down a little in the first three months of the new schedule. Management is continuing to review the possible applications of various forms of flexible working time at this plant and at other locations.

Congressional Oldsmobile, Inc. This dealership, located in Rockville, Maryland, decided to try the four-day, 40-hour week because its building could not be expanded to add more service bays. Since more and more cars were coming into the service department, it was essential to find some method of dealing with the problem. Another reason for trying out the four-day week was to attract good quality mechanics by offering them an attractive work schedule. After the schedule had been in effect for about a year, management reported that it had been successful from the customers' viewpoint since service hours were more convenient. Also, parts sales went up 29 percent. However, there were problems. The firm has not been able to attract better qualified mechanics, and overhead costs have increased because it had to hire six

more employees: two crew chiefs, two parts clerks, a night cashier, and a night car jockey.

The firm has 17 men in four crews with one crew chief for each crew. Once every eight weeks each man has to work on Saturday, but he always has three days off at one time. As far as the mechanics are concerned, most of them would not go back to the five-day week even though not all of them like the longer hours on the four-day week. Many older workers do not like the arrangement because they do not know what to do with the extra time off. If a mechanic has a working wife, the wife does not like it and neither does the husband, but nearly all the younger workers are for it.

Levy-Ottenheimer, Inc. In February 1973 this clothing manufacturer, located in Baltimore, had been on a four-day, 36-hour week for two years. It originally decided on this schedule in order to utilize equipment better and to give employees an extra benefit. It employs 65 women who work Tuesday through Friday. Management is not on this schedule. Production has increased between 2 and 5 percent. Ninety-five percent of the women (especially the older ones) like this schedule.

United Planning Organization (UPO). At the time of this experiment, in 1970, UPO was a community service organization in Washington, D.C., funded through the Office of Economic Opportunity (OEO). When OEO disapproved raises for workers at UPO, it was decided to rearrange the workweek. Originally they were going to cut the number of hours of work from 40 to 37½, but when it was not approved, someone suggested that they could dispense better service to the community if they worked longer hours. It was decided to have the new hours from 8 a.m. to 6 p.m. Monday through Saturday with 88 employees working in two shifts, one from Monday through Thursday, and the second from Wednesday through Saturday. Only field workers were involved. The plan lasted from March through November, during which time two surveys were conducted. The first survey was made three weeks after the new schedule went into effect, and 81 of the 88 workers were favorable toward the plan. In June another survey showed that 71 people liked it (at that point 10 had dropped out either because they were promoted or had left their jobs). In response to questions about what they did with their extra day off, 64 percent said they took care of personal business and 32 percent said they did not know what to do with their time off. One person had another job. The fact that 32 percent of the people did not know what to do with their extra day off indicates the need for better preparation of employees in adjusting their life habits. One manager suggested that counseling would be in order if the plan was tried again. It was said that the schedule failed mainly because supervisors did not trust the workers between 8 and 9 in

the morning and between 5:30 and 6 in the evening when they were not under supervision. This is an example of the need for supervisors to be prepared better administratively and psychologically to meet changing conditions.

American Psychological Association (APA). APA is a service organization to its members and publishes a number of journals for which production schedules must be met. It has been on a 4/37.5 schedule since March 1972. The plan is voluntary. When the plan was first initiated, employees decided which day they wanted off, either Monday or Friday, and chose either a four-day or a five-day week. If employees chose the four-day week, it was up to department heads to work out any problems with staff about days off. About half the 150 employees went onto the new schedule, and the other half remained on a regular five-day week. One of the appealing features of the arrangement was that it allowed one to switch back and forth depending on the time of year (one couldn't decide to alternate days off). For example, one of the directors of the organization said that during the winter he went back to the five-day schedule because it got dark so early and he was late coming home; however, he planned to switch back to four days in the spring.

The plan was evaluated in July 1972, at which time it was decided to continue the schedule for another six months with one change–everybody who was working the four-day week must take Friday off. Now employees work nine and one-half hours Monday through Wednesday and nine hours on Thursday. According to Dr. Gottlieb Simon (1972), the senior (and older) managers felt that communications and scheduling would be improved if all personnel worked four consecutive days on a four-day week instead of three consecutive days as under the variable workweek.

APA hopes to produce data that will be useful to other associations and businesses contemplating a similar change.

Forbes Magazine. In October 1971 Forbes Magazine, published in New York, decided to try the four-day workweek for all of its employees. Most employees had Friday off. A skeleton force covered Friday and had Monday off. Forbes' five-day, 35-hour workweek was compressed into four days of eight and one-half hours. Malcolm Forbes (1972) said:

> I also felt strongly that the wave of the future was–is–in this direction; that many of the best of the younger generation have a burning determination to have time to do the things they want to do (in addition to working for a living) while they are young enough to do them . . . .

In addition, the longer workdays were expected to produce more efficient output and a reduction in absenteeism. The results showed that these expectations were reasonably met. However, the Forbes experiment ended because of the small numbers of people in each department and the necessity for each department to be covered at least partially for five days. Since some were off on Mondays and the majority were off on Fridays, too often there was an effective workweek of only three days. Another problem was the cost of temporary help; such help was needed when the regular staff members were on vacation, sick, or absent. Forbes would like to be able to try it again, but only when enough other businesses are on the same kind of schedule so that operations can be better synchronized with the people and enterprises with whom the magazine does business.

Flexi-Time

As with the four-day workweek, many variations are involved in flexible working time, more popularly called "flexi-time." Flexi-time means that the daily starting and quitting times are flexible for the employee, but he or she must be there during a core working time. Some examples of how this is used are extracted from Bolton's report (1971):

1. *Flexibility within the working day.* This means that employees arrive within the limits allowed in starting time and work whatever number of hours are prescribed in the particular organization. For example, a company may have a core time from 9 a.m. to 3:30 p.m., with a half-hour lunch from 12 m. to 12:30 p.m., and a total of eight workhours per day. The flexible hours are from 7:30 a.m. to 9 a.m. and from 3:30 p.m. to 5:30 p.m. On a given day, one employee may come in at 9 a.m. and leave at 5:30 p.m., while another may come in at 8 a.m. and leave at 4:30 p.m. In this arrangement there is no carryover of hours, so that starting time governs quitting time.

2. *Flexibility within the working day with flexible lunchtime.* Using the same example as above but with lunchtime from 11:30 a.m. to 1:30 p.m., it works like this: Employee A comes to work at 7:30 a.m. and decides to use the full two-hour lunchtime to run errands. His eight-hour day would then end at 5:30 p.m.

3. *Flexibility within the workweek.* Core time applies each day, but the quitting time is not directly related to the starting time each day. Employees may decide to vary their schedule and total hours each day, provided that the total weekly hours add up to the number prescribed.

They may work only core time one day and make up the missed hours in the next two or three days.

4. *Flexibility within the working month.* A calendar is set up to let employees know how many hours they are required to work during the month. An employee may work only core time for several days and make up required hours at his convenience within the month.

5. *Flexibility within the month with carry-forward.* This is like the last-described schedule with the addition of carry-forward time (10 hours being the usual maximum) which the employee may use in adjusting his hours the following month. If he has a debit of 10 hours, he must make it up within the flexible bands of work time. These arrangements do not allow employees to take time off during core time if they have a credit balance.

6. *Flexibility within the month with carry-forward and core time off.* In addition to the flexibility permitted in the last-described arrangement, this system allows the employee to take time off (usually a limited amount) during core time, provided that he or she has made arrangements with the supervisor or department head so that the workflow will not be interrupted.

In order to make either of the last two arrangements work well, the employer must have a great deal of trust in his employees. In companies using these arrangements, experience has shown that employees are willing and able to accept the responsibility entrusted to them.

Why are firms adopting flexi-time? H. Allenspach (1972) has given the following reasons:

1. The transportation problem is a major reason. Many firms were obliged to stagger work times and also turn a blind eye to tardiness. Inflexible working hours were more or less fiction. "Flexible working time legalized, and put order into, a situation that had become chaotic."

2. Employees who want to go home for lunch or to run errands may desire a longer break at lunchtime than do those who eat at or near work.

3. Another reason could be a tight labor market which obliges employers to attract new categories of workers. A flexible workweek allows more married women to enter the labor market on a part-time basis.

4. Workers will often take a whole day or a half-day sick leave rather than be late for work, whether or not the reason for tardiness is valid. This can be avoided through flexi-time.

5. By adjusting working hours to suit employees' efficiency cycles better, output can be increased and accidents can be reduced. The employees may take a greater interest in their work, and the work atmosphere may improve. Fluctuations in staff may diminish in some cases.

6. As with the four-day week, firms may take advantage of this system in order to attract staff, especially in a tight labor market.

7. Newer concepts of management that seek to give workers a greater share in decisionmaking can be reinforced by flexible working time.

Mr. Allenspach listed these cogent reasons why employees would be motivated by flexi-time:

1. Each person can adopt the work pace that best suits his individual needs within certain limits.

2. Workers would not have to stop in the middle of a job because it is quitting time, and they could have a flexible time for arrival at work.

3. Workers could decide when the best times are for going to and from work to avoid traffic jams. Also, the psychological pressure caused by having to arrive on time would be eliminated.

4. Married couples who work on different schedules might be enabled to work the same hours.

5. Flexi-time provides opportunity for persons to shop, do errands, have appointments, etc., within a normal workday.

As Janice N. Hedges (1972) has stated, "Flexible work weeks give better opportunities for humanistic management. Considerations of flexi-time are given to humans and not technology." In a trip to Germany and Switzerland to study flexi-time companies, she found that companies adopted this schedule because it was a more efficient way of operation. One company experienced a high rate of tardiness which it found was related to traffic congestion. By adopting a flexible work schedule, the company was able to meet worker needs and be more productive.

Problems To Be Solved

Problems are involved in initiating flexi-time, of course. Not all firms or jobs in a firm are suited to flexi-time. For example, some people, such as

switchboard operators and receptionists, are necessary during the opening hours. Obviously, it would be difficult to have people like bus drivers on flexible working hours.

Some jobs are closely interlinked such as those in assembly lines and continuous processing. If such work is not coordinated, chaos can ensue. This is not to say that manufacturing firms could not go onto flexi-time; it is possible with careful planning. In Switzerland, a watch manufacturer which operates an assembly line has been trying it out.

Obviously, recordkeeping must become more elaborate as the numbers of options included in a system are increased. However, this factor has rarely been cited as an important negative consideration by employers or employees with flexi-time experience. Most firms have time clocks or on-line computers to record times. (To avoid making clock punching a low status symbol, in some firms executives also punch the clock.) This obviously will be an additional expense for many firms, as will also be, for some firms, the overhead involved in being open longer hours. Such items as lights and maintenance will require extra costs. If more productivity is the result of flexi-time, overhead costs will be minimal compared to the gains, both for the workers and the company.

In the United States, the Walsh-Healy Public Contracts Act, which specifies overtime after eight hours a day, might be a stumbling block for some firms. Since most flexibility is provided by a time frame set within a month, the Fair Labor Standards Act would also be an obstacle since it makes provisions for overtime after 40 hours a week, and it would be impossible to carry hours forward with these constraints.

The firms that have converted to flexible working time in Europe solve their overtime constraints in one of two ways. The first is to pay overtime only after an employee's debit hours have been made good. The second system assumes a hypothetical working week whereby overtime ordered which does not exceed this time is not compensated by extra pay and overtime ordered which does exceed this period is compensated by extra pay.

Case History of Messerschmidt-Bolkow-Blohm

To provide a bit more operational flavor, we shall give here just one brief case history of flexi-time. The first company to introduce flexi-time was Messerschmidt-Bolkow-Blohm (MBB) in 1967. MBB employs 4,000 people at its company headquarters outside of Munich. The administrative, research, and technical development departments are there, while the manufacturing units are located in other parts of Germany.

Because of traffic congestion at the plant entrance, many workers would be late to work, and many of them would get ready to leave work 20 minutes before quitting time. The personnel manager thought that a more efficient work schedule needed to be devised. He conceived of the idea of working a core time with flexible starting and quitting times around it. The system works like this (Bolton, 1971):

> Everyone can start and leave work when he chooses. He is obliged, however, to conform to two basic conditions.
>
> 1. To be present during the core time, which extends from 8:00 a.m. to 4 p.m. (3:30 p.m. on Fridays), apart from a fixed lunch break of 48 minutes.
>
> 2. To work his contracted number of hours per month with a tolerance of plus or minus 10 hours which may be carried forward to the next month.
>
> All employees "clock in," but time clocks are now strategically placed near their offices. There is no queue to beat; jobs that have been started can be completed since compensatory time can be taken off another day.
>
> People who need time off to deal with personal matters now do so, whenever possible, in the flexible time and make the hours up later.
>
> Recording for project costing is now carried out on the "clock card" and is much simplified.

In Germany the maximum hours of work per day were then 10, so the schedule was set up as follows:

Day	*Starting band*	*Finishing band*
Monday – Thursday	7:00–8:00 a.m.	4:00–6:00 p.m.
Friday	7:00–8:00 a.m.	3:30–6:00 p.m.

Since the majority of employees were paid monthly, it was decided to settle the time cards at the end of the month. It was found that the majority of the employees had a fairly constant credit of 3 hours and 50 minutes and that only 1 percent of the employees exceeded the 10-hour debit – in most of the cases this was due to missing entries on the time cards or to emergencies. Employees no longer sit around watching the clock; they can work at their own pace.

In a survey conducted by management two years after flexi-time had been implemented, the results were: Nearly two out of three employees said that working conditions were better under the new system; 27 percent said working conditions were the same as before, but most of these respondents had to rely on the bus system run by the company and could not take advantage of the flexibility offered by the new schedule. When asked what the personal benefits of flexi-time were, the majority said that there was "better balance between work and private life"; the next highest number of persons responded "easier travel." Seventy-nine employees out of 4,000 thought that there was reduced time available for communication; 88 employees were sorry that the system could not be extended to employees who were not included, like bus drivers and security officers. Only seven employees cited personal disadvantages working under the new system.

Summary

Both compact-week and flexi-time schedules were initiated mostly by management in a search for greater productivity and better utilization of manpower and equipment. Many of the enthusiasms originally associated with the initiation of experiments with work schedules have, with the passage of time, been tempered by the realism provided by accumulation of greater experience. We shall summarize here the highlights of experiences with both systems. Later chapters will be devoted to more extended consideration of the issues raised.

The four-day week. In the United States the urge to achieve greater productivity, better utilization of equipment, and better workflow has caused many small firms or departments of large firms to try the four-day week. The appeal of this schedule to workers is in a large block of usable leisure time, less commuting time, and perhaps easier commuting owing to the reduction of traffic congestion. Commuting costs, lunches, and child care are reduced in many cases.

Management must be thoroughly prepared both administratively and psychologically for a changed schedule. The habits and values of its employees and managers are both at stake. Before converting to a four-day week, an organization has to ask itself many questions since, once on a four-day week, it is often difficult to turn back again to the five-day week. Can you accommodate an atypical schedule into the larger scheme around you? For example, after a conversion, what types of transportation problems will result for the business and for the employees? Will the new business schedule hinder com-

munications between your firm and other firms? What about the coordination of schedules for workers and supervisors?

Companies need to make their expectations clear and collect the information necessary to determine whether they have been fulfilled. By way of illustration, one can point to organizations which assume that more days off will be accompanied by more worker satisfaction which, in turn, will lead to more production. When increased worker productivity is not the outcome, then "happiness" is subtly substituted as a criterion, and the management-instituted change is rationalized as the gratuitous offering of an employee benefit.

Legislative and collective bargaining constraints originally designed for other reasons impose obstacles. The four-day week is somewhat easier to put into practice if a company is willing to pay time and a half for work time over eight hours a day, or if the company's workweek is below 40 hours. Most unions are against the four-day week. They feel that it would be all right to try it if the workweek were reduced to 4/32 or if employers were willing to pay for overtime after eight hours of work in one day.

There have been no conclusive studies on the fatigue factor in the four-day workweek. Hardly any controlled experiments have taken place with the four-day week to determine its long-term effects. Quite often other changes are made at the same time that are not taken into account in evaluation. The studies which have been conducted show both positive and negative results and, until more is known, one should be wary of the more exuberant descriptions of happy employees.

Other considerations bear on the individual off the job. Is the person able to use leisure time effectively, or is he or she bored? How will the four-day week affect his or her family life and friendships? Do larger blocks of free time act as a motivator offsetting other negative effects?

Flexi-time. Flexi-time is an European phenomenon which, until recently, had not been attempted in the United States (although many firms such as research and development companies and advertising agencies may do this in a nonformalized fashion). Many of the issues related to compact work schedules apply here as well. A few special circumstances apply.

Legislative constraints do pose a problem for firms wishing to try out this concept, but as in the case of the four-day week, it may be possible to try it out in firms which do not work 40 hours a week and do not have an eight-hour-day restriction.

A point to be kept in mind if a company decides to experiment with flexi-time and needs to use time accounting procedures, is that everyone in the company (or department or section) should be covered since resentment may be created if clock punching becomes a symbol of inferior status.

* * * * *

The compact week, flexi-time, and other work schedule innovations ought to be tried out more widely and evaluated more thoroughly. Certainly, as time at work decreases, it becomes increasingly possible to make life more varied, and these kinds of alterations of our systems technology hold out to the worker the prospect of more freedom and control of his own life.

IV. TOWARD A GENERAL PERSPECTIVE

With the data and discussion in the preceding chapters as background, we see that innovations such as the four-day week and flexi-time have importance that goes much beyond their current forms and present degree of popularity, or their particular assets and liabilities as administrative techniques or management tools. Such innovations bring to the fore and illustrate a whole host of challenging questions affecting larger long-term issues.

A Glimpse Ahead

We are coming to recognize with increasing clarity that we are confronting problems that reach beyond the mere redistribution of time and activities—problems that encompass substantive alteration of the nature and quality of life. We see a reshuffling of interrelated elements within the total complex of our life styles and our social, political, and economic organizations.

In years past, when people had little time to spare from their work, most attention was focused on problems, policies, and research related to the nature and conditions of work. In recent years, as the proportion of time devoted to paid employment has progressively declined, and as we look ahead to continuing (though possibly decelerating) trends in this direction, we have come to recognize that increasing attention must be given to the nature, condition, and effective use of nonwork hours—the time devoted to study, rest, and leisure.

Any serious planning in this area has to consider the continuing trends toward a reduced workweek and questions about rates and limits that are desirable. For example, we see more stores staying open later hours and on all days of the week, presumably manned by employees with desires for a reduced workweek. Questions may also be raised about working hours of doctors, public agencies, and the whole range of personal service operations if a greater variety of patterns of work materializes. We must not overlook the changes already underway in career planning and organization of the home as greater flexibility in scheduling work of female employees passes from a demand of select groups to an established fact.

At the level of the individual, we can draw upon the preceding chapter to make a case in point with the four-day, 40-hour week, and briefly sample a few of the ramifications. Given the hypothetical case of a married female office worker with one child who shifts from the 5/40 to the 4/40 week, she now has a day free to do shopping while her child is in school, and she can take the child to the doctor for his booster shots without taking a day off

work. Or maybe she will use the time to take a course that will enhance her chances of promotion. But the bus runs less often when she leaves work now, though she can get a seat that was occupied during the rush hour; she has problems arranging for child care since the lady who has been taking care of the child is not available for the entire 11- to 12-hour daily span; and her husband and child are not accustomed to early breakfast and late dinner. If the office goes onto a rotating day-off schedule, her headaches are even greater. Longer weekends for her, but not for her husband, raise questions that did not exist before. For example, "Should she take a weekend trip with a group of girls from the office?" And the web spins on.

Obviously, it requires little imagination to illustrate with a single case the interdependence of work and leisure. This quite simple case multiplied only a thousand times would vividly demonstrate the potential for a tremendous impact upon the social warp and economic woof of our life-style fabric.

We also need to be aware of what is happening as a consequence of the increase in total lifespan coupled with reduced work life. Thus, the person who retires at 60 and lives to 75 has 32,000 hours that have potential for creative use. As a larger proportion of life is spent in retirement, we have more than a shift in numerical or biological phenomena; a chain of qualitative changes affecting every phase of life for the individual is an accompaniment (Kaplan, 1967; 1970a).

A U.S. President's Scientific Advisory Committee subpanel (1962) found: "We know something about how people spend their money, but almost nothing of how they spend their time . . . ." We now realize that an understanding of economics and politics is not enough. We have become aware that plans and policies for new patterns will need to cope increasingly with problems of psychological and sociological behavior.

A common perspective needs to be created for studying the various forms and patterns of life activities. One component cannot be considered alone. So it is that, while the literal title of this study deals with patterns and implications in changing working time, we find that in order to get a true picture of the situation, now and in the years ahead, we must devote as much or more attention to how nonworking time can be beneficially utilized. For ultimately what we must seek to achieve is a creative mix of work and leisure activities which will provide for the individual a more fulfilling way of life, allowing for uniqueness and self-actualization. In the aggregate, this creative mix will afford society at large greater opportunity for mutual sharing of the better things in life and for promoting a value climate that will reinforce experimen-

tation with and evaluation of increasingly varied means for making this a better world in which to live.

Accelerating Rate of Change

Those who attended school in the pre-World War II era were conditioned by the implicit assumption that when their years of secondary or higher education came to an end–when they entered the world of work "for real"–they would have acquired most of the fundamental skills and knowledge that they would need to support their work and general life activities from then on. Relevance was more or less assumed. The picture of the world and one's adjustment to it still had a rather stable character. Obsolescence was not very threatening. "That is no longer so. The rate of change has increased so much that our imagination can't keep up." (C.P. Snow, 1966.)

Now we see further complications; as change occurs more rapidly, the time to prepare for it decreases. Our institutions must develop better methods to reduce cultural lag and overcome social inertia. We need to achieve, to quote T. Hoopes, "the capacity to treat as real and urgent, as demanding action today, problems which appear in critical dimension only at some future date." (Spilhaus, 1972, p. 714.) Policies anchored in the *status quo* are soon obsolete. To accommodate to an increasing rate of change, more lead time may have to be built into planning–e.g., the conventional five-year plan perhaps ought to be declared obsolete and replaced by a ten-year planning unit.

A startling vision of the changing world that lies not far ahead of us is given in *Future Shock* by Alvin Toffler (1970). He is one of an increasing host of futurists who provide mixes of scholarship and fantasy to drive home the conclusions that, in many respects, we are passing the point of no return; that the future is now; and that procrastination and timidity in confronting and coping with the real issues can court disaster.

Looking ahead in a systematic fashion from the outcomes of an inquiry carried out by the Institute for the Future with a panel of highly diversified professionals, we can extract a number of themes to depict a scene into which we can project further consideration of the future allocation and use of time (Gordon and LeBleu, 1970; Enzer, Little, and Lazar, 1972). The panel identified 32 events judged to be most important to changes in time-money budgets in the future. Among the futures that may result from the occurrence of events that were rated as 50 percent or higher probability by 1985, they saw such as the following:

- Virtually all businesses will increase time off work by at least 25 percent for civic, political, professional, and personal activities; and the full-time workweek will decline to 35 hours (after 1985 to 32 hours or less), with more effect upon male than female workers. There will be greater sharing of household activities and increased expenditures for recreation.

- Education for all workers will rise sharply. The high school dropout rate will decline. Most of the college-age group will enter college. Lifelong work-study programs will become more available. Interest in cultural activities will increase.

- Associated with increased leisure time, an increased demand for personal transportation is anticipated, despite general subsidization of mass transportation.

- Average vacation time will at least double.

- Most married women will be in the labor force, and most urban centers will have government-sponsored day care centers.

- Very likely is the enactment of a guaranteed annual income of at least $5,000 per year (1968 dollars) for a family of four, along with a doubling of Social Security payments. (Because of inflation, this amount would have increased to about $6,400 by 1973.)

These projections fairly well represent the salient characteristics of those made by others in the field.

It has come to be accepted rather generally that in the remaining years of this century we face the prospect of substantial changes in the orientation of our work-centered and leisure-centered values and motivations. We are on the verge of considerable social experimentation with new patterns of work and leisure activity. For meaningful comparison of different approaches to decisionmaking in the total context of life management, generally accepted criteria need to be developed.

V. INDIVIDUAL CHOICE AND ADJUSTMENT

Where the task operations and the tools to perform the task are under the control of the individual himself, great latitude in work scheduling is possible. The ultimate in this regard is represented by work that is predominately intellectual and creative. In such work the individual can largely determine how to budget his own time and effort. For people operating at this end of the physical-intellectual activity scale, there tends to be less distinction between their satisfaction-seeking behavior in work and leisure time. Related to this is the lesser concern that these people manifest about how many hours they work (often greater than standard), while they jealously guard prerogatives to schedule their own time as they think best. Indeed, this discretion is a generally recognizable symbol of professional status. For this kind of people, "official" changes in work schedules have relatively little impact, because the reduction of hours or days provides little felt compensation.

On the other hand, for multitudes of workers in organizations, the impact of changes in work schedules may be great. When we focus upon the individual worker's choices in the use of working time and free time, his related problems and satisfactions, and his benefits and losses, two sets of major determinants come into play. One consists of the organizational and external factors that constrain or facilitate his election of choices, which we shall consider later in this chapter. The other consists of his own personal preferences. We shall pursue that subject here.

Personal Preferences

Dealing first with personal preferences, we assume that a range and combination of work and leisure options are available to the individual. First of all, he must know about the available alternatives; otherwise, they are for all practical purposes nonexistent. The main channels for developing this awareness are the individual's past experience and education. These can be supplemented through various communication media and processes. For example, he may profit from the experiences of others communicated to him. To the extent that his education and experience have been narrow and the opportunities to broaden them are limited, the opportunities for the individual to enrich himself—either financially or psychologically—through constructive use of increased free time are correspondingly constricted.

The orientation and value the individual gives to the available forms of work and leisure also determine how he allocates his time resources. Thus, individuals who highly value their work and derive great satisfaction from it may seek few other ways to achieve satisfaction. These are the people of

whom it is said, "Their work is their whole life." For others, their jobs may be heavy burdens, borne in order to gain the time and money to do the things they really want to do.

Most individuals depend heavily upon the organizing structure imposed by a full and consistent work schedule. It is important to their psychological well-being. Long periods of unprogrammed time and a recurrent need to choose alternatives or to reorganize plans may be very unsettling. For some people, their jobs are the only interesting and purposeful activity in which they engage. When given more time off the job, their frustrations, conflicts, and boredom increase.

The work that one does is often the most important source of self-identity (Wrenn, 1964). One's sense of identity and social standing derives largely from one's occupation or profession (Dubin, 1972). Furthermore, it is often true that the physical and social environment at the place of work is considerably more attractive than one's home and neighborhood. From nationwide surveys we find that the vast majority of employed men say that they would go on working even if they inherited enough money to live comfortably without working (Robert L. Kahn, 1972, pp. 178–179). Research further indicates that for most adults the solution to dissatisfaction with work would be sought in another kind of job rather than in more free time (Meyersohn, 1972).

If the matter of life satisfaction is seen not as a choice between work and leisure, but as synthesis, then Kaplan's observation applies (1970a, p. 11): "It is not work *per se*, after all, which is the basis of the Protestant ethic; it is being needed, obtaining dignity for oneself by contributing to the general welfare." The challenge then becomes one of creating the conditions and the supporting climate in society that enable people to feel needed, obtain dignity, and contribute to the general good in work *and* in leisure.

It needs to be emphasized that, for the individual, work and leisure are not spheres of activity that are psychologically separate. The individual draws from both spheres in seeking life's satisfactions, and his perceptions and activities are integrated in a continuing process of seeking to achieve reasonable adaptations in a real world. The goals and the needs he seeks to fulfill in the two domains may be mutually reinforcing; they may be conflicting; or they may be complementary. More attention will need to be given to how such goals and needs exist and apply in leisure time, as well as in work time, lest we find that an increase in psychologically nonproductive free time simply transplants the seeds of discontent from the worksite to the homesite and the community. Segal (1967, p. 2) offers this hypothesis:

Individuals who have learned to commit energies toward goal achievement will characteristically find minimum difficulty in making commitments, within the constraints of the social structure, as they choose employment, chore, leisure and free time activities, while individuals who have experienced developmental difficulties in learning to commit energies toward goal achievement will show a consistent inability to make such commitments in any area; or inconsistency and unreliability over time from area to area.

Research by Havighurst (1961) provides some data supporting expectations that positive correlations will be found between a person's energy expenditures in one area with the vigor of his involvement in other areas.

A person's orientations are a function of the characteristics of the individual and of the society and its subgroups of which he is a part. Most projections and planning, for lack of adequate breakdowns in statistical data, have tended to treat the populations involved in studies of work and leisure as having relatively homogeneous (average) characteristics and preferences, when, in fact, differences may be marked between sexes, age groups, educational backgrounds, occupational groups, and socioeconomic classes. Only recently have attempts been made on a broad scale to study the use that people make of their time in the context of daily life, taking into account patterns associated with distribution of activities; and regularities in timing, duration, frequency, and sequential order (Szalai, 1971).

So long as the organization of our industrial society remains essentially work-centered, the timing of work continues to be central to the organization of all other activities (Segal, 1967). Preparing people for and maintaining people in work have presented a guiding principle for most of our social institutions. The individual has been expected to accommodate to the predetermined structure; ". . . the rhythms of life are mechanically paced: time is chronological, methodical, evenly paced." (Bell, 1972, p. 165.) By and large, we treat everyone in the group alike. "Fairness" has been essentially interpreted as dealing with everyone in the same way. "Organizations deal with the requirements of roles, not persons." (Bell, 1972, p. 166.) Individual differences have presented a problem, but the main concern has been to keep at a minimum the impact of individual differences on the total system's operation.

Greater efficiency in the utilization of manpower is frequently accompanied by rigidification of tasks, reduction in the utilization of skills, and increased routinizations—all of which open the door to job dissatisfaction for a new generation of highly educated workers (O'Toole, *et al.*, 1972).

The Individual's Changing Values of Work and Leisure

Until relatively recent years in highly industrialized countries, work and work-related personal and family maintenance activities consumed nearly all of an individual worker's time; hence, the use of free time was "unimportant." We are now approaching the point where large numbers of people will have major segments of time to "play" with. The fact that days off in some jobs already exceed the number of workdays certainly increases the pressure toward greater flexibility in the timing and use of leisure as well as of work.

As we enter upon the "postindustrial era," our orientation and values are changing. Greater freedom from the demands, controls, and structuring of activities associated with time spent as part of producing enterprises can allow us to give more attention to *individual* fulfillment through individually different patterns of leisure activities.

Leisure should not be treated as a "substitute for living," but as a means for better living (Lens, 1966, p. 172). New time can provide men with new meanings, a new philosophy (Prehoda, 1969). "But the new time like the new resources under the hard surface, must be developed with priorities and values for utilization." (Kaplan, 1970a, p. 6.) We need new life styles, not simply a grafting onto old patterns.

> All theories based on a conception of work, family duties, political activities, or educational activities are bound to fail if they consider leisure merely a compensation or a complement to institutional obligations needed for the functioning of economy or society, without reference to the mutation of the new individual's needs. [Dumazedier, 1971, p. 203.]

There is the temptation to make the simple assumption that "the more free time the better." Obviously, to translate "more" to "better," we must take into consideration for whom, for what purpose, and under what conditions. Furthermore, we might ask: Does increased leisure lead more people to engage in "self-actualizing" behaviors? (Maslow, 1954.) Can society tolerate, individually or collectively, a largely self-actualized population?

Management may be unwittingly planting seeds of conflict (Wilson, 1971) by holding out increased leisure as compensation for routinization, thereby creating a condition where leisure is given an enhanced value that strengthens the antiwork ethic—the value of leisure is enhanced at the expense of work motivation. Aversive conditioning toward work is increased for workers, while

managers, for whom work provides greater fulfillment, continue to adhere to the "old" values.

An aspect of aversive conditioning is illustrated in a study of attitudes toward a prospective four-day, 40-hour week by Gannon and Reece (1971). They found, with a sample of engineering technicians, that those who were most dissatisfied with their jobs were most opposed to the prospect. One reading of this result could be that, for the person who is already unhappy at work, a longer daily exposure is not tolerable to begin with so that it is difficult for him to regard an extra day off as a compensating alternative. Also, the negative effect may cumulate multiplicatively; i.e., aversion builds up at "overtime rates" and "equal time off" is not psychologically equivalent. Managers are likely to recognize the impact of cumulative physiological effects. They are more likely to overlook the fact that psychological effects may mount in a similar fashion. Once more, therefore, we see tangible evidence that managers of public policies are naive who assume that there exists somewhere a simple formula for optimizing satisfaction and efficiency by trading X units of free time for Y units of work time. Policies that implicitly regard free time only as an escape from work are operating within a biased and incomplete conceptualization. Or, in Dumazedier's words (1967, p. 87): ". . . the humanization of work through leisure is inseparable from the humanization of leisure through the values of work."

It is unreasonable to expect a very large number of individuals consistently to use the increasingly available leisure in a rational and effective manner. In our high technology society, large numbers of people, particularly among the lower socioeconomic classes, are being exposed for the first time to the problems in disposing of substantial increments of free time (Schlesinger, 1971). For people of all ages, the needs for education and protection become comparatively greater in the leisure activities area (Shubik, 1967). To appreciate the "better things of life," many people will need help to acquire new skills, knowledge, and attitudes. Many will need to learn how to share in these benefits, to evaluate the choices open to them, and to adjust and manage life under changed conditions.

As life comes into orbit increasingly around leisure instead of work, then in the context of leisure there must be implanted the possibilities for personal growth and fulfillment. As Max Kaplan (1970a, p. 14) says: "We need models to think with, in this case meanings or values through leisure."

A caution should perhaps be introduced here. Some observations about leisure and the working man have reflected an elitist taint. The "upper classes" have always presumed that if the "lower classes" had more time and

money, they would just drink more and engage in other slothful behaviors. Obermeyer (1971, p. 225) warns: "Creative leisure cannot be modeled on the kind of leisure that intellectuals have enjoyed and developed in the past." Labor leaders have expressed irritation on this score. The "solution to the problems of unfree work," Blauner (1964, pp. 183–184) states, is not to be found in "a division of society into one segment of consumers who are creative in their leisure time but have meaningless work and a second segment capable of self-realization in both spheres of life."

Elaborating upon a similar theme, Kaplan (1970a, p. 18) says:

> Neither the models nor evaluations of their implementation should be tied to mass triumphs. Given a new set of creative conditions which I observe even in our so-called and disparaged "mass culture," the keyword is *accessibility;* it is then the educator's duty to desire miracles of creativity but the citizen's right to aspire to pleasant conformity. Our tasks as leaders in conceiving and implementing new conditions for man are to observe the strengths of the new, provide creative options for all, expose persons to the new options, and assist them in forming higher aspirations for themselves. More than that is both unrealistic and self-defeating.

People cannot be *made* to appreciate "the better things"; they can *learn* to do so after they have had access to experience with those things. The values and purposes of individuals and the satisfaction of their needs must be shaped and distributed according to their developmental, cultural, and economic status.

Constraints Upon Individual Choice and Organizational Change

Factors both within and outside the work environment constrain individual choice and organizational change. We shall consider here some of the most prominent and prevailing constraints.

Human resource economics and accounting principles. One global limitation stems from the absence of tangible values assigned to human resources and to leisure variables in most economic theory and accounting models in actual use. As Flamholtz (1972) points out:

> Although the economic importance of people is well recognized, few organizations attempt to account for their human resources. Conventional accounting systems treat . . . investments in human resources as

expenses rather than as assets. Thus human assets do not appear on financial statements. Similarly, organizational information systems typically do not measure and report on the value of human resources and changes in their value over time.

As one related consequence, business or government investments in leisure activities almost inevitably show as a loss in comparative cost-benefit analyses because there is no way to input constructive benefits. This is true not only in the accounting sense; the absence of tangible indexes can concomitantly induce in policymakers a negative bias because of failure to perceive the psychological values that can be derived from better use of free time.

So far, only one writer has attempted to develop an accounting rationale to make possible a flexible redistribution of time-off alternatives. In Kaplan's model (1972, p. 12) *time* rather than dollars is the constant unit of exchange.

> Simultaneous patterns may be anticipated—going to school and working during the same year; flexible patterns open when the line between work and retirement is minimized or eliminated, so that one travels or takes his intermittent sabbaticals while he is involved, healthy, or before his wife has three children; he works in his 60's and 70's, and pays the interest on the *time* he borrowed, by work energy, exactly as he now repays the money he borrows.

Samuelson (*Newsweek*, November 16, 1970, p. 57) helps to reveal a blind spot that has impeded constructive thought and planning on the accountability of leisure:

> If . . . people decide that they want more leisure, the fact that it will slow down the growth of the G.N.P. is only a reflection of the way in which we measure that magnitude. If leisure were somehow reckoned in the G.N.P., much as we reckon other good things of life—apples, oranges, back rubs, ballet and football games—there would be seen to be no true reduction in G.N.P. . . .

To this reasoning Mitchell and Baird (1969, p. 19) add that a nation can measure itself not only in terms of National Income Accounts but also in "National People Accounts," and "have the option of producing better people rather than more or improved goods." Increasing research and development in the field of social indicators reflect the growing acceptance of this point of view.

Time, dollars, and energy are not the only units by which costs and accomplishments can be audited. Because the nature of the yardstick used tends

to determine organizational policies and procedures, to provide a source of balance we are beginning to recognize that we should introduce into our formal reckonings social indicators of work and leisure satisfactions and meaning (Blau, 1955; Berelson and Steiner, 1964; Ennis, 1968; Sheldon and Moore, 1968; Kaplan and Bosserman, 1971; Robert L. Kahn, 1972; Meyersohn, 1972; Bauer and Fenn, 1972; 1973).

Formal and informal regulation. Formal restrictions are imposed and options are allowed by regulating factors such as law, contracts, and collective bargaining. Traditions and custom often have equally compelling strength. In many important respects the culture and the law have not treated equally men and women workers. Social Security laws set limits on the working time of "old" people. Laws relating to education and labor also govern the time of entry of young people into the labor market, and the kind of work that they may do. Once men and women enter the work force on a permanent basis, opportunities to select educational options as free time activities still exist only for a minority, though the numbers are now growing rapidly. Generations of struggle by the labor movement have gone into the establishment of the eight-hour day as standard; hence, any tampering with it tends to breed suspicion and to inhibit experiments with less orthodox distribution of hours of work in the workweek (U.S. Department of Labor, 1971). Competition within and between industries and national economies sets limiting conditions. Governments continually engage in economic planning, incorporating policy patterns and degrees of stringency or latitude that determine the range of choice of a working pattern available to employers and to employees.

Work situations and work organizations. The nature of the work is another factor that affects the latitude for choice. Continuous process industries are generally cited as examples of situations where schedules must be fixed so that necessary personnel will be available at all times. Seniority or other criteria may be used to enable an individual to select a preferred shift, but otherwise options are distinctly limited. In similar fashion, machine-paced work requires that a worker be available at a specific place at a given time for a designated period. Also, as Robert Middlekauff of the Ford Motor Company has commented: "Industry is basically wary because it's locked into some work processes by technology that is heavily capitalized. It takes lots of money to design, install, or rearrange the equipment and the line." (Price, 1972, p. 34.)

Labor organizations and employers alike have usually not felt that they could or should exercise any great influence upon how the individual manages his free time. They have generally felt that they could and should direct their

greatest effort and influence close to the worksite. Perhaps this is one reason why it has been difficult to get unions to accept arrangements that afford workers a choice among alternative combinations of wages and hours of work. It may be that what some persons have interpreted as indifference of labor leaders concerning what their members do with their free time is simply an acceptance of the proposition that there is not much they can do about it (Wakefield, 1966); that the members regard life off the job as none of the union's or the employer's business.

However, contraindications are found in a study of extended vacations carried out for the United Steelworkers of America (1967). That survey showed that the vast majority of respondents felt that the union should be concerned with members' related nonjob problems. In similar fashion, Herrick (Sheppard and Herrick, 1972, Chapter 12) shows that workers themselves tend to say that work fulfillment needs improvement more than pay, while union leaders have the contrary opinion, voiced by Victor Gotbaum, Executive Director of the American Federation of State, County, and Municipal Employees, AFL-CIO: "At the reality of the bargaining table, ... The membership won't trade job satisfaction for less dollars." (Price, 1972, p. 37.)

The surge of interest and experimentation with reallocation of the hours of the workweek among a lesser number of days has sparked vigorous debate among labor leaders and employers as to where the ultimate benefits lie. So far the debate for the most part has followed traditional lines—income, hours, and working conditions. However, looking ahead, we may see it turn more to such issues as the character of work, leisure, and life quality, as they relate to noneconomic individual gratification and social worth (Price, 1972).

Symbolic of this was the announcement that, for what is believed to be the first time, a major union made job satisfaction a contract issue. In anticipation of 1973 contract negotiations, the United Auto Workers asked the Chrysler Corporation to begin talks on how to "humanize" jobs on the assembly line. Also pointing in this direction is a quotation from Douglas A. Fraser, Vice President of the UAW's Chrysler Department: "Management has developed a sense of social consciousness that they never had before. Even 10 years ago, the traditional position was that the problems of society were none of their concern. Well that's changed." (Johnson and Kotz, 1972, pp. A1 and A12.) One indication of that change is found in the provisions beginning to be made by firms like Xerox to give employees paid leave to engage in socially relevant activities. Comparable commentary from management sources indicates that labor leaders are becoming more enlightened too.

Greater flexibility in the use of time, space, equipment, materials, and people opens up the possibility for increased business earnings. Thus, for example, we have seen that the current initiatives for a four-day, 40-hour week and other variations have come mostly from executives who have seen possibilities for profit through improving the use of their facilities and reducing their overhead. Those kinds of profitability prospects can pretty well be forecast in advance when contemplating experiments with new workweeks. Assumptions about increased productivity, generated by better employee morale and motivation, are more speculative. As reflected in Chapter III, not much hard data have been generated through research on this subject, and such as now exist do not reveal any startling difference in level of productivity between the new and the old workweek.

It should be made explicit that worker satisfaction can be regarded as a criterion of effectiveness for the changes instituted, but this criterion must be considered separately on its own merits. The relationship between satisfaction and productivity is more often talked about than demonstrated (Katzell, Barrett, and Parker, 1961; Ferguson, 1958; Brayfield and Crockett, 1955; Vris, 1971). The attribution of an actual increase in individual productivity to higher morale needs to be handled cautiously. Confusion has been induced in the interpretation of results of administrative experiments where organizations have failed to account separately for the benefits derived from effective use of tangible resources and from the cumulative impact upon individual worker productivity. This confusion has also bred controversy over what should be the worker's fair share of the gains obtained.

Novelty frequently serves as a stimulus for temporary behavior modification. It is not unusual that as the novelty diminishes, the truth is unveiled that the change itself was impotent. During the past few years, many glib generalizations have accompanied introduction of plans for four-day weeks and other variations. Without provision for careful specification, planning, and analysis of results, it is difficult to establish which generalizations are supportable. Also, structural characteristics of time, space, place, pace, and organization of work often leave little or no room for changes in an individual's work behavior. The unaltered demands of the situation often nullify efforts aimed to alter the worker's motivation and behavior. Disillusionment may set in when short-term success is followed by long-term failure. The baby may be tossed out with the bath water for lack of ability to discriminate between what is beneficial and what is not, thus losing the opportunity to exploit fully the real benefits that may exist.

Family dependencies. Degrees of freedom for family members, especially women, to exercise options in the use of work time and leisure depend greatly on how much provision can be made for child care and for care of the elderly, sick, and disabled. With the proportion of the total population in civilian employment ranging from approximately one-third to one-half among the more industrialized nations, and still declining, along with average length of the workweek and the workday, the dependent care factor tends to become an ever more sensitive influence upon work time and life activity patterns (Organisation for Economic Co-operation and Development, 1967; Kreps, 1968).

Physiological and psychological factors. Not to be overlooked, of course, are the physical and psychological limitations that govern scheduling of work, even though technology has substantially reduced human energy demands. Workdays need to be regulated by law and organizational self-interest to protect health, safety, and efficiency. It is well established that physiological and psychological efficiency suffers at an accelerating rate as workday length passes certain limits or when rest and relaxation periods are insufficient to match the energy and attention demands of a given type of work. While such results are most obvious where heavy muscular activity is involved, and indexes of productivity loss, accidents, errors, sickness, absence, and the like are easiest to measure reliably, it is safe to generalize that for all types of work and worker populations there are optimum ranges of time for scheduling of work that can be determined. Furthermore, it has been demonstrated that often the worker himself is not the best monitor of his schedule. He tends to respond to discomfort and recognize reduced efficiency after substantial objective decrement has already occurred.

A number of studies have been made of efficiency as related to continuous hours of performance in different types of work. In designing work schedule innovations appropriate to the characteristics of the work and to the worker populations involved, and in conducting cost-benefit analyses of such innovations, measures of performance must be taken into account.

For illustrative data we can look to Tiffin's and McCormick's text (1965, pp. 485–491). They indicate a paucity of data from real-life work situations that provide comparisons of various work schedules, but do include citations of the following: Kossoris, *et al.* (1947) reported on the experience of 78 organizational units in 34 manufacturing plants during World War II, where there had been changes in hours of work from prewar- to wartime, or from wartime to postwar conditions, using productivity, injury, and absenteeism

data. They found that, typically, when hours exceeded eight per day and 48 per week, for relatively light work it took three hours of work to produce two additional hours of output; for heavier work more than two hours of work to produce one hour of additional output, with about 8/40 as an optimum in terms of efficiency and absenteeism. Injury frequencies and rates showed similar trends as hours increased.

Ray, Martin, and Alluisi (1961) have brought together several reports of changes in continuous performance of mental work over 12-hour periods that show various rates of decline. In more physically demanding activity, similar declines have been shown in four driving skill tests over periods of one to nine hours by Herbert and Jaynes (1964).

In their early study, Farmer and Bevington (1922) demonstrated a "warm-up" phase at the beginning of a work period before peak efficiency is obtained. This alerts us to the possibility that if the duration of work periods is reduced, warmup will become a proportionately greater component of net productivity.

It is also possible to think in terms of adjusting to physiologically determined cyclical variations of human behavior. We do not yet have sufficient research to permit fine tuning to take place. However, once a requirement for such information has been established, no large technical obstacles stand in the way of obtaining it. The Omi Railway Company of Japan, for instance, claims that a one-third drop in bus- and taxi-driver accidents was brought about through studies of each man and his lunar cycle and adjusting routes and schedules accordingly (Ramey, 1972, p. 11). Behavioral concomitants of the female menstrual cycle are common knowledge and the subject of quite a bit of research. Evidence of similar male cycles has been uncovered but less thoroughly explored (U.S. National Institute of Mental Health, 1970). A daily cycle has been taken for granted by both men and women, but has been largely ignored as a basis for work planning (Ramey, 1972). Several studies of sleep periodicity suggest that there may be seasonal variations in sleeping hours (Kleitman, 1967, pp. 186–187). But the question of the relationship of these cycles to work performance also needs to be looked into further.

Overall, these findings demonstrate the desirability of taking into account empirical measures of performance in designing work schedule innovations appropriate to the characteristics of the work and the worker populations involved, and in conducting cost-benefit analyses of such innovations. Too often such requirements have been neglected.

Other constraints. One must also consider such interdependent factors as transportation, housing, population distribution, activity schedules of others in the family and in other groups, locally and in the society at large, as well as the full range of organized and personalized leisure activities.

New Individual Adjustment Patterns

Whatever the changes that are made in the work environment, the individual worker must adjust.

One might contemplate that, to the extent that larger proportions of a lifetime are devoted to nonwork, the possibility exists that identification with interests of the employer may be decreased. This may happen because the reinforcement associated with working situations is proportionately less, and because other strong competing interests may have a greater chance to become salient. For example, if greater amounts of free time result in more multiple job holding, a *conflict of interest* may diminish the exclusive *loyalty* that a single employer can command. The concept of a work career may also undergo considerable change, perhaps characterized by more deliberately planned interjob mobility than is now the case. We have too little experience as yet to do more than speculate on the possible effects this kind of situation may have on morale, turnover, quality of work, and labor-management relations.

As individual fulfillment becomes raised to a higher level of concern by society, the values and organization of social institutions will no doubt evolve to meet the changing needs and to revise the accompanying relationships. Individual and social planning for constructive use of free time now comes to assume a far more important role than it had in the past, and more substantial facts and theory should be generated in support of such planning and the implementation of resulting policies.

VI. ROLES OF BUSINESS, LABOR, GOVERNMENT, AND SOCIAL INSTITUTIONS

Shared and Conflicting Plans, Purposes, and Values

Representatives of trade unions, employers, public authorities, and social institutions are most likely to be consistent and unanimous in expressing the conviction that patterns of working time should be so organized that the individual worker ultimately derives the maximum possible benefits. However, general agreement is not likely to be found among them as to what constitutes a benefit and as to the best means of realizing the goal of maximization. Proposals for reforms and for changes in practice in the various fields involved fall within the jurisdiction of a variety of government agencies and other institutions concerned with economic planning, manpower planning, labor problems, education, social security, trade associations, labor organizations, *et al.* There are few points at which an overall assessment of the problems can be made, whereby broad and balanced policies can be worked out.

Theoretically, the central point of consideration is the national budget. However, the budget is, at least initially, drawn from submissions by different agencies. At the time the budget is prepared, it is hardly appropriate to bring together aspects of policy affecting flexibility in working life because many other more important issues are usually involved. Problems of relative priority in social policy arise mainly when overall budget cuts are required; the object then is not to promote social reform but to secure the maximum cuts with the least political and administrative trouble. Further, budget discussions have little influence on choices made in the course of collective bargaining (Evans, 1971).

Thus, it would appear that to effect fundamental change, it would be necessary to make flexibility in working time an explicit goal or policy, specifically defined within a national context, with an organizational structure established to guide implementation. Such conditions would be more favorable for the development of the needed conceptual models and methods of policy formulation. An illustration of a somewhat related experiment in which the aim is to present overall costs of a complex of social programs is the Social Budget of the Federal Republic of Germany (1970). Perhaps, someday, ministries of "leisure and life quality" will come into being alongside of ministries of labor.

In this connection, it is interesting to note a distinct difference that exists between Europe and the United States. As contrasted to the situation here,

in almost every country of Europe, regardless of political or economic philosophy, research centers on leisure are maintained. These centers serve to feed data to government or private sectors on such matters as tourism, mass media, and adult education; and to provide broad interpretations of what industrialization, more free time, rising affluence, urbanization, television, motor cars, and higher aspirations of literacy mean to the future of their societies. Even at the university level in the United States, programmatic study of these issues is rare (Kaplan, 1970b). Only a few schools like the University of South Florida and The University of Michigan have given these issues some degree of focused attention.

Movement toward controlling and reducing hours of work has most generally been spearheaded by the labor movement. Collective bargaining between union and management has usually been the process through which change has been initiated and the norms for the length and pattern of working time have been established. Participation by government as the representative of the larger public interest has usually come later, through legislation and regulation, to maintain a reasonable balance of power among the principal parties; to improve the bargaining process; to protect the public interest; and to convert emerging norms into standards and apply them more broadly in sectors of the economy where collective bargaining is weak, nonexistent, or inapplicable.

The more flexible policy toward working hours that seems to be taking shape affects public authorities, trade unions, employers, and social institutions. Each of these groups inclines to approach policy changes from a different standpoint. Not only are new positions and problems generated, but new roles, goals, and organizational structures come into being.

Many employers stand to benefit from a more optimal utilization of time, space, and equipment. Certain employers see no benefits because production schedules appear to be optimized now. But pressure to reduce the length of the workweek is coming from the workers themselves, especially the younger workers, who may be more inclined than their parents to take their share of progress in terms of more free time (Zagoria, 1972).

Merely reducing the time of exposure to basically unpleasant work represents a superficial treatment of symptoms—offering a pacifier rather than a panacea. It may be in their best interests for employers to explore more fully ways in which the work itself can provide self-fulfillment. As Herzberg's research suggests, the actual work itself is the most potent determiner of satisfaction or dissatisfaction (Herzberg, Mausner, and Snyderman, 1959). As non-

work time increases and offers a greater range of psychologically rewarding activities, it may be accompanied by decreasing motivation associated with work.

Greater experimentation with more flexible working hours may also be in order to reduce time and error in planning work scheduling and to provide better guidelines for more optimally conciliating the individual's and management's goals. Comfort and attractiveness of the working environment and compatibility with colleagues may assume more value for employees as basic physical need satisfiers and economic security become available to more people. So, it may make a great deal of sense for employers to look for ways to tailor more flexible working hour policies. For, if they can improve the match between the individual's preferred and/or peak efficiency periods and his time on the job, they may be able to increase both work satisfaction and level of performance. Some employers are serious about doing these things, as our earlier review of compacted scheduling and of flexi-time or gliding work time has shown.

To the extent that working hours approach a stabilized plateau, absolute time at work is removed as an item for negotiation. Hence, more prominence may become attached to such matters as the arrangement of working hours and benefits that are realized during free time.

That unlimited industrial growth and more consumer goods are a requirement for the good life is being increasingly questioned. If this attitude takes hold, the influence of still another common incentive to work and to produce may be lessened. If prevailing assumptions become radically altered, new incentives may have to be invented to fit new life styles.

Changing Populations and Motivations

By the end of the century, the population curve for blue-collar workers may follow the path for agricultural workers; "indeed, the entire area of blue-collar work may by then have diminished so greatly that the term will lose its sociological meaning as new categories, more appropriate to the division of the new labor force, are established" (Bell, 1972, p. 165). It is among the white-collar employees in business and government that unionization is currently experiencing the most rapid growth. Professional and technological occupations are becoming open to organization for collective bargaining purposes, often by having professional associations transformed to take on unionlike objectives and functions.

The nature of the working population is far from homogeneous. It is be-

coming ever more specialized and differentiated in the types of work performed and in the range of tangible and psychological needs and values represented among its membership (Dubin, 1972), including membership of labor organizations. Hence, the appeals, values, and techniques of motivation that guided management and labor union leadership in an earlier era are now subject to challenge in both constituencies. In order to appeal effectively to membership with quite different characteristics and backgrounds of experience, these motivating factors need to fit new situational contexts. Greater diversity in the makeup of the society at large creates even greater complexity and demands that the adaptive capabilities of our social, political, and economic institutions be designed to keep pace with continually accelerating change.

If a large bureaucratized organization—whether a part of government, business, or labor—is sluggish in its response to individual demands, it tends to lose its credibility as an agent for personal and public satisfaction. Such bureaucracies tend to become alienated from their sources of membership support and to be lumped together as self-serving groups.

Imposed changes are likely to be received with more resistance than those which people feel they had some role in shaping. Policies that directly or indirectly define the participant role of individual employees can be significant determinants of the preferences expressed and the choices made by them, and of how effectively such policies can be implemented.

An example of different approaches to consideration of the 4/40 week can be seen in the positions taken by the AFL-CIO and the UAW. The leaders of the AFL-CIO expressed adamant opposition based upon the views of the elected officers, rooted in defense of the eight-hour day (U.S. Department of Labor, 1971). The UAW took the position, formalized in an agreement with the Chrysler Corporation, that it was willing to engage in joint study of the possibility, with the proviso that any resulting proposal would have to be sanctioned by at least two-thirds of the union members at the outset and again at the end of a trial period. It was felt that a one-time majority vote would be an unfair and insufficient commitment to make a new plan work since the potential changes in life patterns could be very profound.

Most of the management-initiated plans for the four-day week have sought some degree of prior consultation with employees. However, as we have reported, most such initiatives have occurred in relatively small organizational units engaged in office and light industrial work within non-union establishments.

"A satisfied need is not a motivator of behavior." Maslow (1954) made this point in his theoretical exposition of the "hierarchy of needs." It has significance here by pointing out that as basic requirements for food, clothing, shelter, health, and safety are increasingly assured, the threats to survival and security that impelled people to join together, as in labor unions, to gain strength and security in the conflict with industrial power may now appear to be diminished. Thus, adversary relationships of labor and management as the primary means to improve the welfare of the laboring man may come to have less relevance. But by no means is the millenium at hand.

Technology continues to displace jobs where major physical stress is involved. Physiological fatigue and accompanying performance decrement or safety hazard have certainly not been erased, but now apply in a decreasing proportion of situations. The professional and technical groups are becoming the central ones in society (Bell, 1972, p. 172). Now the better educated employees are more likely than in the past to expect to reach personally fulfilling goals through their work and leisure activity, and less likely to be dominated by reactions to the threat of pain, discomfort, and insecurity. Following Maslow's model, as needs for security and safety are more nearly satisfied, the needs for belongingness, esteem, and self-actualization come increasingly to the fore as motivators of behavior.

New Patterns in Roles and Relationships of Social Institutions

"The evolution of modern management science will ultimately allow every single individual to be taken into full account in the evolution of social planning." This potential goal was expressed by Anthony Wedgwood Benn, when serving as British Minister of Technology (Schlesinger, 1971, p. 80).

If, under foreseeable changing circumstances, viable policies and beneficial consequences for all parties concerned are to be realized, in their relationships they must increase their ability to share a common understanding of constructive goals, objectives, purposes, and values; and of the means to create an improved human society. No doubt, an approach which features much greater individualization of aspiration and life management may severely tax organized management's and organized labor's ingenuity and adaptability. However, new tools are available to help with these problems. So, for example, the computers used to control logistics and work processes in the factory and class assignments in schools have equal potential for adding flexibility to the scheduling of work assignments. That is, just as hundreds of options and thousands of choice combinations can be put into an automobile

on the assembly line, so can programming now be accomplished to match people with known interests, abilities, and time periods available to work with the requirements of work to be done in a great range of tasks and time periods.

Given this kind of management tool, new ideas such as those advanced by Einar Mohn, Vice President of the Teamsters Union, at the White House Conference on the Industrial World Ahead, take on credibility (Mohn, 1972). Mohn makes the case that our institutions must change to accommodate more sophisticated systems for continually reeducating people and for redesigning their career plans; and they must change to accommodate the flexible scheduling that modern living requires. Furthermore, his argument goes, there is nothing sacrosanct about the 40-hour week whether completed in five or four or seven days; nor is there anything inherently right or wrong with a 42- or 46- or 60-hour week–or a 37-, 32-, or 10-hour week–as long as a person can perform effectively on the job. Neither does there need to be an obligation that all one's work take place at one site. All people do not have the same needs. Though both management and unions have preferred the convenience of a 40-hour module, deviations which were difficult to handle until the advent of the computer are now manageable. So, he says, to use smaller modules in building schedules is to increase the variety and useful range of work scheduling. In many industries two- or four-hour modules could be used, permitting plant or office to operate four, five, six, or seven days a week; and six, eight, 10, 12, or 24 hours a day–to make best use of plant, equipment, personnel, and management resources–while expanding options to permit a worker to fit his job time to his family, community, and other personal needs and interests, and to alter this pattern at different stages in life. By 1990, he forecasts, in a free enterprise system such modular systems will come about.

Robert L. Kahn, in a paper commissioned by the "Work in America" task force (O'Toole, *et al.*, 1972, p. 97), has blueprinted a modular system to suffuse even lower level jobs with the flexibility of professional jobs.

> He would break down the work day into units (modules) that represent the smallest allocation of time on a given task that is sufficient to be economically and psychologically meaningful. Workers could allocate their time as they saw fit–working a two hour module on one task, the next two hours on another task, etc. The modules would provide variety and a chance to learn other tasks. They would also facilitate the scheduling of one's work to meet personal needs (child care, schooling) and would open up needed part-time employment. One could also accumulate work credits in order to earn a sabbatical. Kahn posits that

the benefits from the experiment might be the improved self-esteem, self-development, and mental and physical health of the worker, and higher productivity for the organization. To what extent the costs of the experiment would reduce or off-set the gains could only be determined by trial and evaluation.

The government might now take the leading role in supporting the research necessary to fill the gaps in understanding of (1) how individuals at different levels and in different sectors of the society perceive and evaluate alternative choices for allotment of their time and energies to paid work, public service, education, recreation, and maintenance activities; (2) how these perceptions are generated and modified in the course of life; and (3) how people can be better prepared to make satisfying choices on an individual basis that still are consonant with the goals and needs of society at large. This is an accustomed role for government as the party responsible for the creation of general policy required by the newly emerging problems and embracing the welfare of more than a single faction. It would also appear that the government's role and influence in continuing education and recreational spheres will grow as more free time and flexible patterns of time utilization decrease the dominance of work as a central factor in life and give more opportunity for higher level needs to be fulfilled in nonwork activities. Despite difficulties, government should be challenged to develop new policy instrumentalities that will exert positive force to establish the principle of work-time flexibility.

Then, if our educational systems, coordinated with the world of work, can genuinely serve as institutions for "lifetime learning," there is potential for increasing flexibility, mobility, and the psychological richness of lives several-fold.

The concept of continuous education has been very well expressed by Herbert E. Striner (1972, pp. 8–9):

> Individuals will look to an education as the key to unlocking a continuously interesting life experience. . . . Increasingly, individuals will begin to seek out the means of moving from one type of work involvement to another.
>
> . . . . . .
>
> . . . in our inevitable move toward a lifetime continuing education program, there is necessity for complete subsidization of the program, *including economic support to workers and their families* so that they

may live according to conditions associated with their normal economic situation, even while in education and training programs.

Striner (1972) urges the establishment of a "National Economic Security Fund," somewhat like the system in effect in West Germany, integrated with existing unemployment insurance funds, and supported by modest augmentation of contributions to those funds. This fund would permit 1 percent of the labor force to be engaged in the "self-renewal program" at any given point for periods up to two years.[1] Using unemployment insurance funds only for payment of benefits to the unemployed, Striner regards as archaic. Such a program, he points out, would accept the proposition that a nation profits by providing the financial means to encourage adults to pursue continuing education and training as the means for remaining employed or moving into a better paying skill. Thus, we could have higher income tax payments instead of higher costs of welfare or unemployment insurance; create human resources instead of waste; and motivate continuing purposeful development instead of endless, costly, symptomatic treatment—too little and too late—or stagnation, demoralization, and despair.

> In a society of constant change, large numbers of people who remain frozen in their value systems or ways of seeing things become a retarding force in that society. Likewise, in an economy which is based upon technological change, where the rate of change itself is of importance, the presence of a large number of adults whose inadequate level of education or training freezes them out of the new economy also becomes a retarding force in that economy. [Striner, 1972, p. vii.]

Thus, both humanistic and vocationally oriented learning must be included, and all levels and classes in the population must be provided for as technological change and free time grow hand in hand. Striner's observations in Denmark, France, and West Germany provide examples of existing programs with close collaboration among labor, management, government, and other institutions to attain these ends. For instance, a recent report of the Organisation for Economic Co-operation and Development indicates that in France new legislation provides a right to absence from work for the purpose of training, and that a governmental commission has been appointed to examine new formulas for flexible hours of work and other forms of time allocation. In Germany, government and unions are discussing provisions for educational leave and a flexible retirement age. In Sweden, a Royal Commission

[1] It has been estimated that the cost of 500,000 workers participating per year could be met by a 0.75 percent payroll tax (shared by employer and employee) on wages up to $9,000, added to present unemployment insurance taxes (O'Toole, *et al.*, 1972, p. 104).

has reported on financial arrangements for a generalized system of recurrent education in response to a trade-union proposal for equalization of educational opportunities for adult workers and former participants in higher education. Educational leave is also on the agenda of the International Labour Office.

As adult education becomes a more complete and fully integrated component of our learning systems, one may expect some differences to take shape in the earlier phases of education as a consequence. At present, we may tend to overload the young because they are considered to be acquiring "supplies" for a lifetime (Rasmussen, 1970). As a consequence, requirements for "credentials" tend to mount beyond what real changes in work demands would seem to justify in many instances (O'Toole, *et al.*, 1972, pp. 108–112). If, instead, we think in terms of periodic overhaul and replenishment, we face new opportunities for reducing the perishability of our educational products; for reducing unrealistic expectations; for increasing relevance, motivation, and fulfillment; and for reducing people's sensations that they are forever the prisoners of their early history. John Gardner's (1964) vision of self-renewal then can be expanded to embrace the multitude instead of the select few.

The impact of new patterns upon other social institutions probably can be large and potentially beneficial. People who value self-actualization tend to gravitate towards working upon society's problems. Thus, more time and more emphasis may be given to participation in educational, church, and community projects.

Local governments may try to channel the energy, which the Gallup survey (1963) shows is waiting to be contributed, by organizing task forces of unpaid citizens who desire to use their talents for the betterment of their community. In recent years, volunteerism has been made an explicit part of national administration programs under both parties.

It would seem that all social institutions, and even employers, should support policies that encourage the training of people so that they can volunteer their time and talents effectively (Mayo, 1963). However, as volunteerism grows, the problems of managing voluntary organizations become not much different from those in for-profit organizations with paid workers. If personal fulfillment needs are not met, the volunteer programs falter. As a matter of fact, since participants are far less obliged to stay with a voluntary organization, a premium is placed upon skillful management that sustains the volunteers' interest and motivation to work.

In the Maslow hierarchy, belongingness, esteem, and self-actualization become the predominant bases of motivation in such situations. It should be noted that voluntary association groups have frequently provided a channel for attaining status and esteem not open to a person in his job. Because few formal eligibility prerequisites apply, entry and upward mobility are easily attainable. The truck driver who can be a Boy Scout leader climbs a few rungs on the status ladder. Labor unions and political parties are frequently pointed to as examples. However, with growth, such associations tend to become more bureaucratic and their *modus operandi* more professional. To the extent that this happens, the range of options for participation and personal growth through volunteer associations will be constricted. To be sure, more paid positions come into being in this way. But, if one equates increased opportunity to involve oneself in a greater variety of participant roles in society with enrichment of one's life, then one must urge that deliberate thought be given to how to preserve and expand those opportunities as more people have more time and inclination to seek them out.

There may be opportunities for strengthening family ties (Poor, 1970). We may see more participation by parents in the education of their own children. While many jokes have been made on the subject, it is nonetheless true that if husband and wife and other family members have less working time and have to spend more waking time together, then proportionate effort probably needs to be given to learning to live together harmoniously.

Influences of Flexible Work Time on the Labor Market

A frequent question is: What might be the effect of the new flexibility in working time upon the stability of the labor market? Stability can have several meanings. The conventional one that is applied in this context refers to lack of sharp fluctuations in the level of employment and unemployment within an economic system. Here stability is not regarded as synonymous with immobility (lack of intrasystem movement of workers between employers).

Manpower policy can operate in conjunction with more flexible work schedules to help regularize production and employment. It would seem that such flexibility would provide more potential for resilient adjustment to a moderate range of growth or shrinkage of the job market, particularly of a local or temporary sort.

The alternatives should be expanded beyond the dichotomy of work or welfare. For example, when signs of slack in the economy appear, special in-

ducements might be offered for people to make use of free time for general education, or for special training to equip them for better employment with their present employer, or to facilitate transition to employment of a different kind or at a different location. Such inducements might also be used to bring about shifts in the scheduling of time off to accommodate to variations in business without net reduction of work and earnings. These inducements might be more effective under certain conditions than others. For example, if three days off were scheduled in a workweek, one day devoted to training might be relatively attractive because two free days would remain.

For many employers, there is evidence that a large dividend accrues from a greater range of production, scheduling, work programming, and placement adjustments (Poor, 1970, p. 31). This smoothing effect available to management should contribute to less layoff, slowdowns, absenteeism, and work stoppages. Greater flexibility within and between organizations also opens up the job market to women who desire to work only when their children are at school, older individuals who can work efficiently only a few days a week or a few hours a day, and handicapped workers who are constrained by such things as available transportation or fatigue. As previously mentioned, turnover inefficiencies may be reduced since the less attractive jobs may be more tolerable when they can be approached from a pattern more optimal from the individual's point of view. In this regard, for example, a United Auto Workers official, Nelson Jack Edwards, has advocated that employees be given the right to declare which days of the week they wish to work as a way of reducing absenteeism and making possible better planning (Zagoria, 1972).

It has been projected that new job markets will be created as people who have more time to engage in recreational activities, education, and other leisure pursuits create new demands for goods and services. For example, the U.S. Department of Commerce reports that annually recreation now takes around $28 billion, or 6.2 percent of consumer expenditures, and Peter J. Enderlin sees a 7 percent annual growth for leisure-related goods and services in this decade (Kaplan, 1971). However, an increasing proportion of the newly created jobs in service occupations have relatively low potential for improvement in productivity as compared to manufacturing. Consequently, in this trend there may be a built-in brake upon the growth of the economy that ultimately sets a ceiling upon the increases in leisure that can be sustained by further net increases in per capita productivity.

It has been pointed out that one effect of flexibility in working hours is to allow more people to hold more jobs. Most statistical surveys in the United States have indicated that about 5 percent of the working force holds a second job (Moore and Hedges, 1971, p. 7), but a recent survey indicates that

the percentage is now around 10 percent (Survey Research Center, The University of Michigan, 1971, p. 210). It has been suggested that more flexible working hours will result in a moonlighting rate of 20 to 25 percent, which is the prevailing rate in Akron, Ohio, where a six-hour, six-day shift has been used for years in the rubber plants (Ginsberg and Bergmann, 1957). One reaction is to regard this as a positive effect since one can assume that enough jobs are available for people who want extra work (Samuelson, 1970, p. 8). And, from a self-fulfillment standpoint, it seems that the best policy would be to regard it as a long-range benefit. On the other hand, this can operate to reduce the number of people who have jobs when jobs are scarce, unless some form of regulatory intervention takes place. The advantages of better integration of policies among employers to accommodate more flexible patterns that include more part-time and extra-time work can be more fully explored.

Joint planning by a group of employers in a given geographic area, perhaps coordinated with unions and assisted by a government agency, could contribute to employment stability. Pooled information about people who are seeking more work, and positions open to them, could be part of a clearinghouse operation on a continuing basis. A private or public agency could perform that function. The key feature of this kind of mechanism, which distinguishes it from public employment services and the private agencies that specialize in providing full-time help, is the positive planning aspect that would aim to optimize advantages for employers and employees on a broader basis than could be provided within a single firm. It might even prove to be desirable, for instance, to have more people employed by two or more firms on a permanent basis. This arrangement might be useful to employers, particularly when special skills are in short supply. In a combination of part-time jobs the individual might find a set of psychological satisfactions not available in any one job, or certain disadvantages of one position might be compensated by advantages of the other position. This could cut down on movement from one job to another in search of alternative or better prospects. Mohn's (1972) ideas about a two- or four-hour work module system offer intriguing possibilities here. Counseling could be improved; better intelligence on impending surpluses and shortages could be developed; common training requirements could be jointly served; and most generally, manpower utilization that takes into account individual as well as employer and community needs and preferences could be improved. Potential savings exist from reduction of trial-and-error job hunting and hiring and duplication of efforts. The benefits for such coordinated activity are likely to be greater for small- and moderate-size businesses since corporations with large pools of personnel can provide more varied opportunities and can tap more varied talents within their own domain.

No doubt some anxiousness will be generated that this proposal would increase the amount of needless movement. Perhaps some people would be tempted to try out the machinery, particularly during early stages of development. However, when more openness of information and choice exists, personnel may be more inclined to stay put once they find a comfortable fit, because there is less actual need to move in order to learn and try out the alternatives that exist elsewhere.

Certainly, this kind of collective action is not without problems. The essentials of personnel management and industrial relations are unaltered, and coordination among independent businesses adds a dimension of stress. One example that can be envisioned would be the problem imposed in defining overtime. When a person works more than the standard day for one employer, it is clear that he earns overtime; and when he moonlights, doing the same kind of work elsewhere, he gets only the standard pay rate. A temptation may exist for employers to make tradeoffs of people to save overtime. On the other hand, where a central clearinghouse exists, serving a number of employers, the union may argue for overtime whenever the cumulative total of work exceeds the standard day or week, regardless of how many employers are involved. Another problem that would have to be dealt with would be that of making pensions, vacation, and other fringe benefits more comparable and transferable as vested rights and credits of the individual. The final impact of moonlighting on the job market will depend upon a host of factors, many of which will be directly tied to the state of economic health at any point in time.

From a long-range policy standpoint, it does not appear sound to assume that greater flexibility in working hours will necessarily create a less stable labor market. Much depends upon whether certain predictions are correct regarding the number of people who will adopt a self-actualization value during the next 20 years (Mitchell and Baird, 1969). These forecasts see people participating more actively as consumers, thus keeping the goods and services rising, as an increasing number of people will be willing to trade earnings opportunities for free time. The net result would be that the number of people who decide to take a second job or to work longer would be less than might be expected from extrapolations based upon our current value system.

Inferred here is the projection that, on the average, those whose economic needs are greatest will be most likely to use available time to add to income; but that those whose earnings, savings, and security benefits suffice to meet their perceived needs will be less inclined to do so. If validated, this assumption would see a long-term trend toward an economic balance with less dis-

tinction between "rich" and "poor," since the lower income groups would rise to acceptable life-quality levels, while those who have attained a reasonable comfort and security level would be less acquisitively motivated and would be competing less for available jobs. This would represent a reversal of historical trends which show increasing gaps between "rich" and "poor," even as the average income level increases. This idealized model has much to recommend it as a goal but, so far, supporting empirical facts are missing.

VII. RESEARCH NEEDED IN SUPPORT OF FUTURE POLICY AND PLANNING

Within the several contexts under discussion in the previous sections of this report, questions have been raised without much elaboration; and gaps in knowledge, information, and theory have been pointed out. Now we shall move toward more fully articulating what, at this juncture, appear to be the most essential aspects of research required to support the development of plans and policies in the more important problem areas that have been identified. We shall first introduce consideration of these matters with discussions of some general issues of coordination and perspective and then present ideas for specific research.

Necessary Coordination of Plans and Policies at Various Levels

The goals of which we speak, involving increased flexibility and better use of work time and free time, are still a considerable distance from extensive realization, even in the advanced industrial nations. But the direction for movement can be seen fairly clearly. In some countries, approximations of useful models already exist. Within the context of a free society, management, labor, and government are jointly engaged in continual analysis, evaluation, and planning that encompass values and objectives for a broad spectrum of life activities. The requirements for a concerted approach become ever more obvious.

> Examination of the quality of working life has not been fashionable over the past twenty-five years. Instead, we have been preoccupied with the mirage of leisure and the bogey of technology. Unfortunately, the problems confronting society do not follow intellectual fashion. Confronting us is the need to accept, as a national goal, both public and private responsibility for the quality of working life in all of productive society, particularly in facing the transition into the post-industrial era, if we are to develop useful social policy in the U.S. and devise workable responses to problems. [Davis, 1972.]

Not only do we face a need for improved data and methods of research and analysis; we must also reexamine many long-accepted premises. Our frame of reference has to shift from a rather narrow concentration upon conditions of employment to the more global perspective embracing the quality of life. Such a shift multiplies the number of variables with which we have to be concerned and intensifies the complexity of the interactions that enter in-

to attempts to define the problems overall. Then attacks upon these problems must be subdivided and organized in ways that permit us to cope with them in the formulation of meaningful and workable plans and policies.

Changes that are instituted in the pattern of work time and free time have great impact upon, and are greatly affected by, other major developments in the world around us. Many examples have already been cited. A few may be singled out here for special mention.

The premise to which one subscribes with regard to a nation's ability to provide employment opportunity does, of course, strongly influence one's attitudes toward the variety of patterns of work time and free time. One point of view is reflected by Samuelson (1970, p. 8):

> . . . there is no need to reduce the work week merely in order to avoid mass unemployment. The time when there was only a certain amount of work to do is past. Modern knowledge of fiscal and monetary policy can end for all time the ancient scourge of depression and chronic unemployment.

The more traditional view, with many adherents, still sees opportunities for employment as being relatively fixed at any given time. In this view, reduction of working hours is one means to create more jobs; and overtime and multiple job holding that provide benefits to some at the expense of other workers should be discouraged. It is also argued that dislocations have local and immediate impact upon individuals, which tends to be neglected when policies are keyed to economic manipulations employing a statistical criterion for a more general and longer term evaluation.

The weight given to these alternative views in the formualtion of policy, quite naturally, will have a pervasive effect upon the rate, direction, and magnitude of change in work and leisure patterns.

Cross-sectional perspective. Among citizens of industrialized nations (and among the educated segments of less advantaged nations that aspire to benefit from greater industrialization) there is a radically increasing concern regarding the threat to quality of life, if not survival, imposed by contamination of the environment and the upset of ecological balance. This is reflected in pressures for expansion of social and legal controls into geographical and human behavior areas that hitherto have been largely ignored.

The traditional model of ever-increasing material growth as the route to continuing improvement in the quality of life has been subject to reexamina-

tion, and arguments for a switch to a steady-state economy model for the most developed countries are being more frequently heard (Meadows, Meadows, Randers, and Behrens, 1972). Of course, one way that total output can be controlled is to offset productivity increases to a planned degree by reduction of total time individuals devote to working during a lifetime.

It is not unreasonable to expect that increasing regulation of productive enterprise and work activity which prevailed in the past will, in the future, be accompanied by comparable increases in control of nonwork-time activities. Nor can we overlook population increase as an overlay that complicates all movement toward greater flexibility in the organization of work and leisure, and toward making more choices in life management and style available to the individual. Indeed, one perspective in looking at the questions of use of free time is to view them as related aspects of population issues—population size, density, distribution, growth rate, and flow.

Changes that are made in population policies can also be expected to change the composition of the population in several ways that will influence work and leisure patterns. For instance, changes in age distribution will alter the present capabilities and interest for different types of work and leisure.

Likewise, as changes are made that involve new patterns and a greater variety of combinations of sets of working hours and workweeks in business and industry, the success of such experiments will be heavily dependent upon accompanying changes in the schedules of mass transportation, government services, retail stores, protective services, entertainment, cultural affairs, schools, athletic facilities, churches, *et al.* Progressively greater proportions of the work force will be engaged in the service, cultural, and recreational sectors. Thus, considerable adjustment will have to take place in these areas of work. It may come to pass that the pressure of increased population, particularly as it converges upon urban centers, will ultimately dictate such realignment of schedules in order to accommodate the burden as society seeks to make more efficient use of the space and facilities it has available.[1] As we seek to make specific plans for greatest benefit through constructive design of new patterns of work and leisure, we come face to face with a great many interdependencies that require delicately balanced and tuned policies.

The effect of transportation conditions is one that is relatively simple to contemplate. The time necessary to travel between home and work and back

[1] A collateral benefit of more flexible scheduling of time of work and leisure around the clock and throughout the year could be a reduction in costs of congestion to consumers, such as premium costs of entertainment on weekends and vacations at peak seasons.

again reduces the amount of free time available. A concomitant of the increase in affluence and standard of living has been the movement of people further from the worksite in search of more attractive living conditions. Theoretically, accompanying the progressive decline in average hours of work there should have been more hours available during which increased disposable income could have been channeled into leisure activities. We know that the increased length and congestion of transportation channels have eroded these gains very seriously. Consequently, many organizations (unions especially) view with misgivings experiments that include a 10-hour day in a 4-day week because, for one reason, on a "portal-to-portal" basis, 12 or more hours away from home place a heavy physical and psychological burden upon the worker and severely limit the possibility of interaction during the workweek with family and friends. Whether this handicap can be offset by reducing weekly travel time by 20 percent and by the longer unbroken periods of time off, we do not know yet. Nor is it predictable yet whether this might be counterbalanced by more urban sprawl because more people would choose to live further away from their work. As a reaction to congestion in living space and on the road, public planning and initiatives of business firms are pushing to stagger schedules; to disperse offices and factories; and to bring the workers and workplace closer together in new, less concentrated, more attractive settings. Another element that has come into the picture is represented by the suggestion which emerged recently that a four-day week be instituted in order to cut down pollutants from automobiles and reduce fuel consumption.

Mass transit is now being incorporated into planning in a deliberate attempt to recapture social initiatives that for so long have been overwhelmed by the pellmell sweep of the automobile. As of September 1972, when BART was unveiled in the San Francisco area, no new rapid mass transit system had been developed in the United States for 65 years. Washington, D.C., is looking forward to starting operation of its METRO system in another couple of years. Other metropolises are waiting to learn how life can be affected by these two recent developments.

With the availability of educational, business, and recreational facilities, even more complicated are the problems posed by the conflicting schedules within family and friendship groups. The most obvious problem is that, unless adjustments occur simultaneously in the economic and societal sector in which individuals function, the individuals who are not working in "prime time" become members of a disadvantaged minority in that they cannot obtain goods and services when they need them.

Another problem linked with greater flexibility in scheduling during nighttime, as well as daytime, is well known to those who have been engaged in shift work. If a rotation plan requires frequent reassignment of schedules, physiological and psychological readjustment and performance decrement may not be trivial problems (Kleitman, 1967, p. 316). In each instance, a decision needs to be made as to whether a rotating shift or a relatively fixed shift assignment is best.

Along with increasing flexibility in patterns of working time, it seems fairly safe to predict that there will be more freedom of movement in employment. As people are given more choices in how they distribute the days and hours devoted to work and leisure, a psychological climate is likely to be created that also supports greater freedom of choice and change regarding what kind of work a person wants to do, as well as where and for whom he wants to work. One current estimate is that individuals now in the American work force average 12 different jobs during their work life (Bosserman, 1971). If our hypothesis holds, then greater mobility can be expected, except as restricted by structural factors.

Political pressures to reduce existing hindrances will probably develop. Inadequate individual vesting (the right to pension credits transferable from job to job) in private pension plans represents one such hindrance. In the United States, fewer than 1 in 10 workers who change employers before their official retirement age actually get pension credits from their former employers (Porter, 1972). An original rationale for private pensions, from the employer's point of view, was that in return for contributing to long-term security of employees he would reduce turnover and benefit from a more stabilized, skilled, and experienced manpower pool. Mobility was not a good thing from that standpoint. But now, fewer people are willing to accept the idea that to ensure security you must surrender mobility. More people have come to regard freedom to change jobs, upgrade skills, and switch from an unsatisfactory to a more rewarding position as a key to individual well-being (Porter, 1972). Pressures for "portable pensions" mount (Striner, 1967, p. 3). Government intervention can be expected to make possible convertibility among private pension plans similar to that which usually exists in government-run social security programs. Such legislation is now before the Congress.

Other examples of related issues that apply to vacation and other fringe benefits were mentioned earlier. Even these few examples are sufficient to show the necessity for coordination at various levels and the challenge to creative thinking that confronts policymakers.

Certainly, the choices are not clearcut. How much individual autonomy can the social and economic system accept? There are undoubtedly limits to what the system can assimilate with regard to flexibility of schedules, diversity of values and life styles, and independent functioning in a self-actualizing mode. Such questions as these require that the structural and psychological characteristics affecting choices across the whole range of work time schedules be better understood.

A recurrent dilemma that looms is that greater flexibility of working time, greater availability of free time, and increased mobility may have a built-in requirement that social-political systems develop means for greater control of free time activities in order that the benefits may be equitably shared by those who are supposed to have increased their access to them.

An example of the problem that is already with us in the United States was the recent announcement of two major innovations in an attempt to curb overcrowding in the country's national parks–a computer reservation system for campsites and a permit system for hikers desiring to go into wilderness areas (*The Evening Star*, Washington, D.C., March 2, 1972).

Daniel Bell (1972, p. 196) puts this in a larger context:

> A post-industrial society . . . is increasingly a communal society wherein public mechanisms rather than the market become the allocators of goods–and public choice, rather than individual demand, becomes the arbiter of services. A communal society by its very nature multiplies the definition of rights–the rights of children, of students, of the poor, of minorities–and translates them into claims of the community. The rise of externalities–the effects of private actions on the commonweal–turns clear air, clean water, and mass transit into public issues and increases the need for social regulations and controls. The demand for higher education and better health necessarily expands greatly the role of government as funder and setter of standards. The need for amenities, the cry for a better quality of life, brings government into the arena of environment, recreation, and culture.

Long-term perspective. Significant changes in social, economic, political, and individual behavior patterns and values can be expected to materialize over time as a result of substantial structural changes in working time and related activities. Preparation for these eventualities requires the incorporation of the long view in policy development. While some factors in the picture are already quite clearly visible, others are quite amorphous. Long-range planning

needs to make provision for assimilating such factors as they emerge. Continuing information input and feedback are essential.

Most efforts to measure the impact of changed patterns of work upon the work force appear to have been rather informal and after the fact. If we are to have better evaluations of the specific effects of specific changes made to induce greater flexibility and freedom of individual choice, and if we are to improve organizational effectiveness and to understand better the underlying dynamics, then more systematic and reliable measures must be instituted. "After" measures are not enough. "Before" measures are needed for comparison. Retrospective responses—reconstruction of past observations, beliefs, and attitudes—are highly fallible and seldom offer a convincing substitute. At present, we have very little reliable data on how individuals and organizations would order preferences among choices of schedules of work and free-time activities, and what tradeoffs they would consider most and least acceptable.

An example of issues that may arise is reflected in the unpublished study concerning members of the United Steelworkers (1967) in the upper half of the seniority list who get 13 weeks of extra paid vacation every five years under their contract with U.S. Steel. Favorable attitudes predominately characterized those who had taken extended vacations (EV), and those who would shortly become eligible to do so. Yet, the majority said that they would rather apply the cost of EV toward some other benefit; most of them wanted more flexibility in using the free time allowed—to be able to trade more vacation time yearly for earlier retirement or other such options. If our society does, indeed, come to accept the proposition stated earlier—that we should make it possible for people "to choose more freely the form that the time off will take and the uses to which it may be put"—practical implementation necessitates better information and more sophisticated analyses than are yet available.

Enough time needs to be allowed for new patterns to take shape when evaluating outcomes. Furthermore, those engaged in the early experiments are literally out of step with the majority; this may often result in extremes of either positive or negative "halo effect." We have already mentioned experiments with new forms of the workweek in which immediate enthusiasm of employees may be more a matter of novelty than of substance. On the other hand, in the case of the John Hancock Mutual Life Insurance Company where most of the employees involved liked the new arrangement, with the result that even though explicit notice was given in the beginning that the experiment was to run only three months, it was difficult for the managers of the experimental groups, some of whom may have had reservations, to resist

the pressure to continue the new schedule for a longer period (Janetos, *et al.*, 1972).

Furthermore, the effects of increasing the length of weekends on individual and family life may not become fully evident for years because in the beginning old habits, knowledge, and values will predominate and individuals affected will not be apt to alter their life styles quickly. In fact, the new adjustments called for may cause disaffection during the transition period. Again, an example is found in the case of the steelworkers just cited. Comparison of those sampled shortly before actually experiencing an extended vacation with those sampled after they had completed an EV showed that the actual experience of an EV significantly improved a person's attitude toward increased leisure (United Steelworkers of America, 1967). This would seem to indicate that until people are actually exposed to situations in which more free time is put at their disposal, they will have difficulty in anticipating and evaluating the uses to which it may be put. Beforehand, in a condition of ambiguity, they may be cautious or even antagonistic. But after people gain experience and confidence in the use of free time (e.g., extended vacations at various seasons or adult education), value changes will occur (Kaplan, 1970b).

Probing deeply to provide a cosmic illustration of the challenges which may be ahead that require a long-term perspective, one can build upon a futurist scenario from Kahn and Wiener (1967). We advance these propositions: (a) more and more production is automated; (b) more means are developed to reduce hard work and to simplify most remaining individual activities; (c) products and living accommodations are designed to have extended durability or economical disposability and replacement characteristics—increasingly service free; (d) communication facilities (e.g., radio, telephone, TV) make it possible for most business transactions to be handled remotely (e.g., retail purchases, banking); (e) a "good" standard of living is guaranteed both workers and nonworkers; (f) free time is increased substantially for most people, but not much, if any, for managers and professionals.

Then, those who do stimulating work and spend more time at it are relatively few in number and may become an elite group. As previously stated, people may vie to become workers so that they may be engaged in activities that cannot be preprogrammed. The "leisure class" is then at the lower end of the social scale—a radical inversion in the class structure is brought about by change in cultural conditioning and the values accorded work and leisure factors—polarity is reversed from Veblen's (1954) leisure-class model.

> As a game between persons, social life becomes more difficult because political claims and social rights multiply, the rapidity of social change

> and shifting cultural fashion bewilders the old, and the orientation to the future erodes the traditional guides and moralities of the past. Information becomes a central resource, and within organizations a source of power. Professionalism thus becomes a criterion of position, but also clashes with the populism that is generated by the claims for more rights and greater participation in the society. If the struggle between capitalist and worker, in the locus of the factory, was the hallmark of industrial society, the clash between the professional and the populace, in the organization and in the community, is the hallmark of conflict in the post-industrial society. [Bell, 1972, p. 167.]

The specter is simplified to be sure, and hence exaggerated, but it does pose the challenge to society to take an active rather than a passive stance in shaping policies that create new ways to add meaning, purpose, and fulfillment to people's lives.

The answer does not lie solely in increasing the availability of consumer goods, though the incentive value is at present high for the majority. With mounting security and affluence, one can hypothesize a decline in the incentive value of consumer goods. "Is it worth it?" becomes a more frequent attitude. This is seen now in the discontent of middle and upper class youth. "They have it made," but are increasingly aimless. As a new generation of better educated young people populates the scene, a very different psychology and new kinds of demands about the character of work are likely to emerge (Bell, 1972, p. 176). If workers' opportunities for participation do not match the level of their preparation and aspiration, their alienation may have socially costly consequences, though as yet the ultimate form is unclear.

Until basic policy choices are made and the socioeconomic system becomes restabilized in whatever new basic modes come to prevail, it is possible that many innovations with worthwhile potential may be discarded because they are evaluated in narrow perspectives against short-term criteria and not in terms of the longer term model of broad scope. Of course, this assumes that policymakers are willing and able, or can learn how to assume the future with sufficient confidence to define at least gross specifications of a model toward which to work, to assess the merits of a multiplicity of competing demands, and to make necessary choices and set priorities. Certainly, the task becomes no easier with the passage of time.

Research Needs

The gaps in our information are large. The burden of research to fill them is formidable. For example, though social scientists have for many years been

measuring and conceptualizing such things as job satisfaction, involvement, meaning, variety, monotony, physiological and psychological demands, work pacing, cohesiveness, isolation, alienation, communication, openness, and work roles and experiences, until recently they had not measured on a representative and recurring basis any aspect of work as it is experienced and responded to by the worker (Kahn, 1972, p. 169). A significant exception is the National Longitudinal Surveys, conducted by the Ohio State University's Center for Human Resources Research (in collaboration with the Bureau of the Census) under contract with the Manpower Administration of the Department of Labor. Begun in 1966 and now nearing completion, it encompassed four age-sex groups of workers in sample areas representing all states and the District of Columbia. These workers were periodically interviewed over the course of five years with regard to a wide range of labor market behavior and experience in the world of work bearing upon manpower policy (Parnes, 1972).

Time utilization base data. To establish base measurements, one must, of course, begin by obtaining behavioral data about what people actually are doing with their time before considering any changes that may be made in the use of their time. These are cross-sectional data for some defined period that describe the current status at a given time. When provision is made for repeated measurement across time periods, the usefulness of such information is increased tremendously by giving it dynamic rather than static qualities that transform it from a simple description of condition to a resource with far greater exploratory, explanatory, and action potential. Then longitudinal data become available to compare activities and patterns of activities, to describe changes, to infer dependencies, and in some instances to make forecasts. If we are to do more than engage in *post hoc* improvisations to accommodate to crises as they arise, if we are to anticipate and plan for change on a scale that can take into account the numbers and interactions of variables required to make planning and policies meaningful and effective, then more adequate provisions must be made to obtain additional cross-sectional and longitudinal data on time utilization. Fortunately, we now have computer resources enabling us to conduct the extensive analyses required to make a meaningful interpretation of the information.

Activity data essentially constitute dependent variables. By and large, these data constitute the behavioral outcomes of choice processes by the people involved—the sets of action choices selected by individuals on the basis of their knowledge, power, resources, and discretion that they may exercise. To complete the picture, in addition to activity data, we need to find out more about the independent variables—the influences determining attitudes, beliefs,

knowledge, and values that establish preferences for one set of alternatives rather than others.

In this context, we should note that determination of preference and exercise of choice with regard to time utilization represent a special case of resource allocation. Time budgets have no income side. Time is inelastic, nonrenewable, irreversible–a fixed resource. Its expenditure cannot be held in reserve. All of its pieces must be continuously assigned as they become available. Consequently, the process of decisionmaking in employment of time is perceptually akin to a series of "forced choices." It is a demanding process in terms of human adjustment, particularly in a timebound culture such as ours.

Time budgets. Traditional time-budget studies, for the most part, take account of one attribute of activity–duration. They rarely continue over any considerable length of time. They lack sufficient depth for more penetrating analysis of social behavior. The timing aspects of the whole course of daily life have rarely been reviewed in context (Szalai, 1971). A larger compass is a necessity for comprehensive study of patterns and implications of changing schedules of work and free time that tell us who (what kind of person) does what (paid work, housework, personal care, family tasks, rest, recreation, etc.), and what else simultaneously for how long, how often, at what time, in what order, where, and with whom on a daily, weekly, monthly, yearly, lifetime basis from the "cradle to the grave" (or at least during substantial time segments). We need to be able to cumulate such information to see how these patterns are altered for the individual and for the society with the passage of time.

From the Multinational Comparative Time-Budget Research Project (Szalai, 1971), we can adopt general objectives for a systematic effort to obtain and analyze these facts on a continuing basis, i.e.:

a. To study and to compare for different populations the variations and the temporal distribution of human activities, subjected in varying degrees to different kinds of influences.

b. To develop methods and standards for the collection and evaluation of data pertinent to temporal and other dimensions of everyday activity relevant to the organization of working life and to the establishment of conditions for the creative enjoyment of leisure.

c. To establish a body of data, together with a clearinghouse for accumulation and dissemination, on characteristics of everyday life under dif-

ferent socioeconomic and cultural conditions which could serve as the basis for testing various methods and hypotheses of comparative research.

d. To promote cooperation, standardization of techniques, and the exchange of information among those who have a common concern with related problems, policies, research, and evaluation.

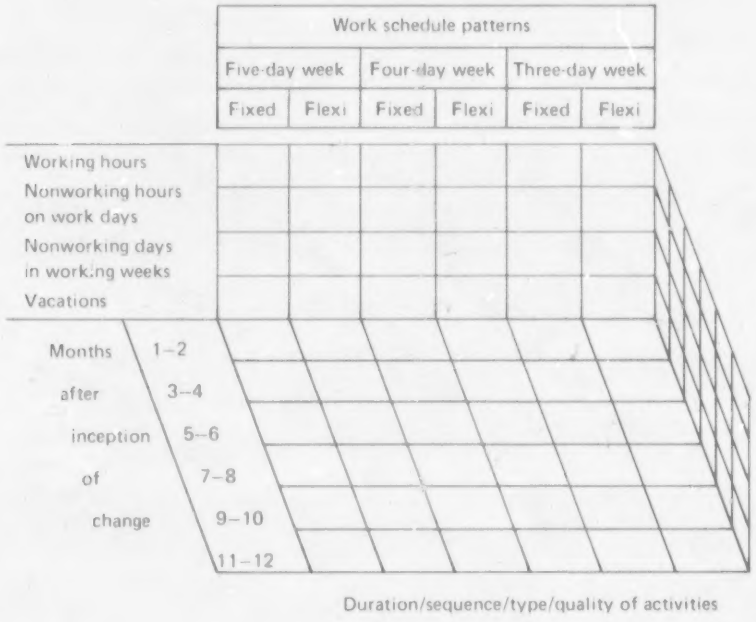
A few examples can be given of current issues that might be illuminated if such data were readily available on a continuing basis. We know from gross data that the proportion of the female population in the work force in general, and married women in particular, has markedly increased in recent years. But those involved in the design of manpower policies and programs have been handicapped by the dearth of generalizable data dealing with such questions as: What are the characteristics of the subpopulations and the other determinants of the flow of women into and out of the work force and back again; what is the timing; and what are the concomitant variations in their own patterns of activities, and those of others with whom they interact significantly? We could also use, for similar purposes, better information affecting the employment of the elderly and the handicapped. In like fashion, we have been able to recognize gross patterns of change in the activities of college age young people, but college administrators and educational policymakers in government have often been caught by surprise by sudden shifts in quantity and direction of student flow. Thus, when confronted by a "zero draft" condition in the military sector, we found great uncertainties in policy circles as to short- and long-term implications, both on and off campus.

Looking ahead, periodic accumulation of facts on activity patterns will permit us to answer questions about how roles and activity patterns change as the amount of individually disposable time increases. Do churches, clubs, community projects, or political activities gain or lose participants? Are parents engaged more in the education of their own children? How are the roles and responsibilities of husband and wife reassorted? Is there more simultaneity of work and schooling? Are friendship patterns altered? What are the trends in part-time and multiple job holding? How is the incidence of self-initiated job change and residential mobility affected?

It might be useful here to sketch out one example of this type of study that could be conducted. Let us take for this illustration the research question: How do changes to different work schedules interact with the changes in the ways that people use time on and off the job? This illustration is schematically represented by Figure 1.

Figure 1

Schematic Example of a Study of How Changes in Work Schedules Interact With Changes in Ways People Use Time on and off the Job



What we have here is a longitudinal study of changes that take place during the transition to a new work schedule pattern. Our schematic example shows six patterns. To keep it simple, we assume the same total number of hours per week for all six patterns. The first column represents a five-day week with a fixed schedule; the second column represents a five-day week with a flexible schedule (flexi-time); and the remaining columns represent four-day and three-day workweeks with fixed and flexi-time alternatives. The first column is, of course, the "no change" or "control" condition; the others constitute the experimental conditions.

The target populations for this hypothetical study would come from organization units of cooperating companies or government agencies. As repre-

sented here, data would be obtained after several periods following the inception of the experimental change (six are shown in the example). The data could include, as illustrated, information regarding various descriptive aspects of the activities in which the sample populations engaged during four categories of time: i.e., working hours, nonworking hours on workdays, nonworking days in working weeks (e.g., weekends), and vacations. The activities data in the boxes could be categorized on and off the job as to duration, sequence, type, and quality.

Further subdivision or expansion of analysis is obviously possible to conceive. Thus, "quality" can be further subdivided in terms of various individual and organizational performance variables at work. Indexes of quality of free time activities can be developed. Satisfaction measures of various types are examples of a kind of quality index applicable to work and nonwork situations. The variety of comparative analyses represented in the Figure 1 diagram can be augmented by expanding the experimental sample of organization units and the populations in them to take account of such factors as size of company, unionization status, nature of product or service, transportation facilities, population density, and so forth.

It is not our purpose to provide an illustration that is all-encompassing, or to undertake consideration of limits of feasibility. We can offer this only as a demonstration of a generalized approach. It is, however, reasonably clear from this schematic example, as has been said before, that as more flexibility comes to characterize the disposition of people's time, it is quite certain that the need for more and better information and better coordination of its use will become more pressing as questions of these sorts multiply.

Preference surveys. It might very well be useful on an industrywide, regional, or national basis to conduct also a continuing series of surveys of the "consumers" of time, covering the kinds of alternative preferences in work- and free-time schedules and activities with which we have been dealing. "Barometric" readings over time could be useful measures of impact and effectiveness; description of current condition; sensors of stress and problems; bases for forecasting, developing perspective, and formulating theory; and guides to policy and practice. That such information can be reliable and practically useful is well documented by Katona's periodic surveys of consumer intentions emanating from The University of Michigan.

Of course, because there are practical limitations and because extensive and repeated samplings are not necessary in every case in order to obtain useful results, there will continue to be need for many smaller scale survey studies. Whatever the scope and scale of research to be employed, it is easy to

offer some samples of the types of questions that might be worth while to address.

One set of questions, obviously of direct interest, concerns people's preferences expressed for free-time activities and the combinations and tradeoffs that they consider to be most acceptable, when available, from among such alternatives as additional paid work versus education (vocationally and nonvocationally oriented) or recreation; or cultural activities; or family, friend, and home-centered activities; or voluntary public and social service work; day versus night work; shorter workdays versus longer vacations; more days off per week, more days off per month, or earlier retirement; and close-in residence versus longer travel to preferred location. Relevant comparisons would be based upon such variables as age; educational level; socioeconomic status; sex; marital status; number of dependents; occupation; type of business, industry, or profession in which employed; geographical location; and the like. No doubt it would also be desirable to make comparisons to establish what constitutes a benefit and what are the relative values assigned to benefits by employees in different categories and by employers, labor union officials, public officials, educators, and so forth in various leadership groups. Linked to this might be studies of the changing attitudes of business and labor leaders toward getting involved in "off-site" activities and the attitudes of employees toward having them involved.

Administrative experiments. Having given some indications of the research data needs that can be derived from general surveys of activities and preferences, we now consider studies that are more closely connected with the institution of new schedules of work. A few of the recent studies discussed earlier included attempts to obtain data and carry out analyses of the effects of the introduction of the three- or four-day workweek upon the employees and the employing organizations. If larger numbers of such studies were carried out more thoroughly with better controls and more carefully articulated objectives and hypotheses, they would certainly add to the store of knowledge necessary to guide future developments. A research effort in which a number of organization units joined in a coordinated programmatic approach would be an appealing prospect. Though research projects in an actual work setting must be subject to practical constraints, it is felt that, given the present acceptance of the importance of the issues involved in certain labor and management circles, interest and ingenuity can be exploited to design theoretically and practically useful projects. Here we shall volunteer one plan of attack; there are, of course, others.

The first step would need to be the identification of organizations prepared to make at least a tentative commitment to cooperate in the project. To

provide an initial basis for discussion and generation of interest among prospective collaborating organizations, material could be drawn from this report and augmented by others, such as James Wilson's (1971) study of attitudes toward the four-day week, cited earlier; a pilot study of productivity effects in companies experimenting with revised work schedules, conducted by Sol Swerdloff for the Bureau of Labor Statistics; and the proposals of Einar Mohn (1972), of the International Brotherhood of Teamsters, to increase the potentialities for flexibility by creating two- or four-hour work schedule modules.

If possible, different types of organization units should be involved—e.g., one or more of a largely administrative type with little interface with "people consumers"; another type that is largely administrative with considerable "people consumer" interface; another that is primarily in fabrication and assembly; and another that is an around-the-clock primarily service operation (like a hospital or police department). Government agencies could be used in some of these categories, and might be a convenient group to start with. A desideratum would be a participating organization that contains a number of similar units so that "experimental" and "control" unit data could be compared.

After initial contacts and preliminary work with the tentative cooperators, those who meet the selection criteria and are willing to make a firm commitment would constitute the final sample. Conferences and interviews with key management and representatives of employees would be held, first with the tentative group and then more intensively with the finalists, to expand and refine knowledge applicable to the specific situational contexts and the chosen project areas; and to generate, define, and refine hypotheses and the research plan.

Implementation of the research plan would probably include a systems analysis of the organization, together with interviews and conferences across the levels and types of managers and employees represented in the experimental organization unit to obtain factual information as well as attitudes or opinions bearing upon a variety of work schedules and related activity patterns and problems. Among the kinds of factors included might be employee preferences; management preferences; constraints inherent in the nature of the goals and of the products and/or services provided; consumer-customer preferences; and anticipated peripheral effects (i.e., not directly concerned with production of goods or services in the work setting) on employees, management personnel, consumers, customers, public services, etc. A plan for analysis of data would also be included.

The results would be reported with special attention to the following:

a. Suggested alternatives for change that appear most relevant and appropriate for consideration *by each participating unit in the organization*, accompanied by information available to use in the decisionmaking process, such as advantages and disadvantages of each alternative and the possibilities for tradeoff, organizational state of readiness for change, decisions that have to be made, implementing actions that have to be taken, and requirements for additional information or further study.

b. A plan for evaluation of the program adopted and/or of the actually implemented changes, keyed to *a*, for each organization unit.

c. Generalizations *across the several organization units*, and by extrapolation to the "world at large," with regard to theoretical models and hypotheses needed for further research; and practical guidelines that others might be able to use (based upon what "we know") to make their own analyses, plans for change, evaluations, and decisions.

The final phase of this proposed project would involve moving ahead with implementation of changes and with further research and evaluation, according to agreed-upon plans, which meet the needs of the specific organization, but which would also incorporate in the design a conceptual scheme that permits testing models and hypotheses that can be generalized beyond the limits of a single organization.

Taxonomy and criteria development. Applicable to the kinds of studies shown here, and to others covering a broad front or continuing in duration, is an extensive set of problems of measurement and comparability. Past studies in this domain have been limited in their generalizability because of narrow objectives and corresponding restrictions in definitions of variables and in methods of sampling, data elicitation, and measurement. Thus, with regard to studies of allocation of time to activities, Robinson and Converse (1972, p. 21) estimate that perhaps only a half dozen studies scattered over the past 35 years were sufficiently vigorous and multipurpose in nature to be of much general interest; and even these were replete with methodological defects and incomparabilities.

Likewise, as Bauer and Fenn (1972; 1973) and others point out, efforts to audit the effects of introducing changes in work-time scheduling are beset with confusion of methods; uncertainty in selection and definition of criteria of success, achievement, or satisfaction to be measured in quantitative or qualitative dimensions; problems in locating information or designing tech-

niques; and insufficient experience to guide assignment of social values and to determine meaningful cost-benefit relationships.

Consequently, any substantial investigations of the kinds called for here, if they are to offer more than a narrow base of relevance and utility, must be preceded by rather strenuous efforts to create a taxonomy (i.e., a rigorous language of definitions and classifications) including explicit specification of the dependent variables (criteria) and their valuations. A good summation of these requirements is provided by Robert L. Kahn (1972, p. 165):

> In short, the idea of *social indicators* implies social action as well, and the elements of static and dynamic description, explanation, value choice, and technology for implementation are the requirements for appropriate social action. On each dimension we deem sufficiently important, we must know our position, our present rate and direction of movement, the causes and consequences associated with these facts, the attainable state we consider preferable, and the approaches that can be taken at different points in the causal linkage in order to bring about desired change.

As a beginning, it would seem worth while for a basic study to be undertaken that could involve collaboration among government agencies, such as the Bureau of Labor Statistics and the Bureau of the Census, and the professional and management societies having most direct interest in the matters we have had under consideration here.

Systems analyses. Changes in the schedules and values associated with work and free time, such as we have been talking about within specific situations, create imbalances in the *status quo* and generate new problems and demands for readjustment, reconstruction, and reorganization that are magnified manyfold in the nation when we take the total social, economic, and political system under scrutiny. Thus, at the national level there are substantial impacts upon virtually every agency of government. Neither the scope of this project nor the competencies of the authors warrant an attempt to spell them out here. We can only call attention to the need for sensitivity to the developing issues and the needs for constant coordination, and briefly illustrate with a few questions that our study suggests are highly salient.

In the domain of education and training, we have earlier touched upon needs for reexamining content, structure, and scheduling to accommodate to new patterns for work and free time. We have pointed to more urgent needs to provide for continuing education and to determine who will share account-

ability in providing such education in various forms at various times—the individual, the employer, the union, the schools, the government. Thus, for example, who will complement existing occupational counseling by providing counseling for such pursuits as planning an extended vacation, preparing for retirement, or purchasing a second home?

Transportation and city planning, depending upon the adequacy of the assumptions made and the policies developed, can impede or facilitate attainment of benefits that may exist in more flexible life styles and schedules.

As flexibility in working time is accompanied by complexity for an increasing population, a fundamental challenge exists for a free society to promote the benefits of such flexibility and at the same time to diminish the specter of control that complexity induces. To ensure security, must you surrender mobility? We may well ask: How much autonomy and self-actualization can the social and economic system assimilate? A thorough reexamination of structural constraints upon choice and change is called for to expand the capacity of the system to achieve such assimilations.

These are but a few of the myriad issues that need to be examined within global contexts to which tools such as systems analysis, simulation modeling, computer programming, decision-process principles, and Delphi inquiry can be applied. New tools may have to be developed. More satisfactory models of human resource economics and of methods for human resource accounting, to which we have alluded previously, fall into this category of requirement.

Some theory and hypotheses. In this section we shall make the transition from the particular needs for information and methods for obtaining same to some final thoughts about theories and hypotheses that arose in the course of earlier exposition. Most of these fall within a longitudinal perspective with a future reference dealing with changes in work-centered and leisure-centered values and motivations and their possible concomitants in behavior change.

As the proportion of time and activity in nonwork time increases, shifts will be likely to take place in the ways, means, and places in which certain basic satisfactions are sought, and in the meanings and values people ascribe to work and free-time variables and their interactions.

We have previously given attention to comparisons of motivation and incentive values of various forms of free time with other benefits. Further study is required to determine the extent to which time off does or does not serve as an incentive, on the one hand, to increase productivity and raise standards

of performance; or on the other hand, to compensate for unpleasant, dissatisfying characteristics of jobs.

Some examples of hypotheses that might be tested are:

a. As freely disposable time increases, the contrast between people's work-oriented and leisure-oriented values will be sharpened.

b. In occupations that are primarily intellectual and creative (where the individual is his own tool kit), people tend to manifest less distinction between their values and satisfaction-seeking behaviors in work and free time.

c. With respect to free time, management is reinforcing worker values that it does not share.

d. Those who make good adjustments related to goal achievement in employment are likely to make good adjustments in other activity spheres.

e. Free time is associated with an increase in self-actualizing behavior.

f. As less time is required on the job, identification with the interests of one's employer is decreased.

g. Increases in multiple job holding diminish the exclusive loyalty that a single employer can command; hence, more job hopping and turnover are experienced.

h. As the need to devote time to work is reduced, the identity and status that derive from work affiliations are diminished, and compensatory mechanisms will operate to seek out status and identity in other channels (such as recreational activities and voluntary organizations) or, where these are blocked or lacking, in maladaptive behaviors.

i. In the future, the concept of a career will incorporate new values endorsed by society, which support more planned interorganizational mobility and interruptions of work by periods devoted to leisure and learning.

j. The credo that continuing industrial growth and more consumer goods are a prerequisite to the good life will come to be questioned increasingly; qualitative indexes will gain weight as compared to quantitative indexes of life quality in determining choices of time, energy, and resource utilization.

To put the pieces of the puzzle together so as to improve policies and decisions with regard to changing patterns of work and their implications for life quality, there need to be more serious attempts to repair the lack of global theory and models so that we can fruitfully interrelate issues which are sociological, psychological, economic, legal, and philosophical.

Crucial to the attainment of such goals, where the outcome is expressed as quality, is the development of adequate criterion rationales and definitions as the basis for structuring the indexes of quality. Ultimately the formulations of such definitions of societal objectives are the responsibilities of the executors of policy at high levels of government. The work that in recent years has been done on methodologies for social audit shows that development in this area is at a primitive stage (Bauer and Fenn, 1972; 1973; Sheldon and Moore, 1968); it needs to be pressed forward. The requirement for this criterion data stands on the critical path to the dimensionalization of the needed models.

Recapitulation. We need to develop information to fill the gaps in our understanding of what individuals at different levels, with different backgrounds, and in different sectors of society actually do with their time; how they perceive and evaluate choices for allotment of their time and energies to paid employment, to work-related activities, to life-maintenance activities, and to the disposition of free time in learning, recreation and relaxation, cultural pursuits, public service, and social service; and how their perceptions, values, and behaviors, individually and as members of various groups, are generated and modified in the course of life within the context of sometimes evolutionary and sometimes quite revolutionary alterations imposed in an emerging postindustrial era. We have need for this information to formulate more sophisticated theories and to invent and test methods for preparing people to make these choices and for integrating them behaviorally in planning for a more fulfilling existence. The major institutions of society—management, labor, education, government, *et al.*—have need for this information to formulate policy and to create the organizational structures that will facilitate adjustment and will increase the likelihood that the new uses and distribution of people's time do indeed add to life's quality.

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